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ABSTRACT

This handbook is part of a packet intended to aid educators, families, and adult service providers to facilitate the transition from school to adult life in the community for students with both cognitive disabilities and visual or dual sensory impairments. Emphasis is on transition planning and community based instruction, including vocational experiences. An introductory section describes the curricular framework, the students to be served, student profiles, and relating to parents. Section II covers transition planning and includes a parent input questionnaire. Section III provides guidance for the community-based instruction and vocational experiences central to the curriculum. Instructional strategies are covered in Section IV including the following: using residual vision in functional activities; functional orientation and mobility programming; strategies for improving student responsiveness through awareness of auditory functioning; facilitating communication; adjustment to change; an approach to challenging behavior; group instruction; fostering friendships and other relationships; sexuality and intimacy; adaptations; prompting as an instructional strategy; and activity selection (recreation and leisure). Appendixes include a list of 43 references, addresses of publishers, and a list of products and catalogs for adaptive aids and equipment. (DB)

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HANDBOOK FOR INSTRUCTIONAL STAFF

A CURRICULAR APPROACH TO SUPPORT THE TRANSITION TO ADULTHOOD OF ADOLESCENTS WITH VISUAL OR DUAL SENSORY IMPAIRMENTS AND COGNITIVE DISABILITIES

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HANDBOOK FOR INSTRUCTIONAL STAFF

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PREFACE

This training packet entitled "A Curricular Approach to Support the Transition of Adolescents with Visual or Dual Sensory Impairments and Cognitive Disabilities", was developed through funding from the Office of Special Education and Rehabilitation Services (OSERS), and from the New York State Education Department, Office for the Education of Children with Handicapping Conditions, Title VI-C.

The purpose of this project is to develop a vehicle to aid educators in joining with families and adult service providers to facilitate the transition from school to adult life in the community for students with both cognitive disabilities and visual or dual sensory impairments. The particular focus of this project is the preparation of students for adult lifestyles reflecting competence, participation, and productivity.

This handbook is meant to serve as the core guide not only for instructional staff, but also for administrators and supervisors, transition coordinators, and adult service providers. Without a thorough understanding of the curricular approach represented in this handbook, these professionals will not be able to effectively support the implementation of this program. Material specifically identified with the responsibilities of administrators and supervisors, transition coordinators, or adult service providers, is presented in separate supplemental handbooks.

This training packet consists of a basic guide, "Handbook for Instructional Staff," with three supplements, and a "Handbook for Parents." The components of the complete curriculum are listed below:

- Handbook for Instructional Staff
    - Supplement for Administrators and Supervisors
    - Supplement for Transition Coordinators
    - Supplement for Adult Service Providers
- Handbook for Parents

This handbook is meant to provide instructors with the best current thinking and practice about educating adolescents with cognitive disabilities and visual or dual sensory impairments. It is aimed at the staff member who has limited preparation for work with this population, e.g., who has not been trained to work with students who have sensory impairments. This handbook may also be useful to staff who have worked only with young students, and to staff members whose training occurred before the mid 1980's, when a major change took place in regard to how students with severe disabilities are viewed.

This handbook is not meant to be a detailed manual of what to do. It is meant to stimulate exploration of new and better ways of interacting with students. Instructional staff members who are interested in examining further any aspect of this curriculum, are provided with references to do so.

CURRICULAR FRAMEWORK

> "It is not the quantity of tasks we can perform without assistance that matters but the quality of life we can live with help." (Zola, in Ludlow, Turnbull, & Luckasson, 1988, p. 46)

The curriculum model represented in this handbook has as its goal the promotion of quality adult life outcomes for students with visual or dual sensory impairments and cognitive disabilities. The curriculum reflects and utilizes the best current thinking and most promising practices in the fields of severe disability and sensory impairment as they apply to the education of students of high school age.

QUALITY ADULT LIFE OUTCOMES

Three major adult life outcomes have been targeted in this curriculum, namely valued participation, functional competence, and productivity (Wilcox and Bellamy, 1982).

VALUED PARTICIPATION

Refers to the inclusion of individuals with severe disabilities in decision making related to their life activities. It also implies that individuals with severe disabilities will be actively involved in community activities in ways that increase their social relationships with nondisabled persons and foster receptivity from others in the community.

FUNCTIONAL COMPETENCE

Refers to the individual's ability to engage in purposeful activities associated with adult lifestyles, and to the availability of the opportunities, supports, and assistance needed to realize this ability.

PRODUCTIVITY

Refers to the individual's engagement in the economic aspects of community life, with its routines, challenges, potential monetary benefits, status, and social relationships.

A curriculum that reflects the above values would look quite different from programs for students with severe disabilities that are found in many schools today. Throughout this curriculum an attempt is made to illustrate the process necessary to reach these valued outcomes.

Below is an example of how a typical school day for one student might change as a result of implementation of this curriculum and the values it reflects.

EXAMPLE: Sergio (See Profile #2, p.13)

A typical school day for Sergio might have looked like this.

Sergio's Former Program

8:40-9:30 AM

Sergio exits from the school bus and is assisted to the classroom. He is greeted by his teacher and helped to hang up his coat. After all of the students have done this, they are taken as a group to the nearby toilet and return from the facility in a group.

9:30-10:00 AM

Juice and cookies are served to all of the students.

10:00-10:30 AM

Morning circle - Each of the students is expected to communicate a greeting to every other student. Then the teacher focuses on whether anyone is absent, and what the weather is like.

10:30-11:15 AM

Individual quiet activities - Students are given a choice of such activities as a light box, putting together a puzzle, or listening to a tape recorder with ear phones. (This is also a time when individual students are taken out of the classroom for related services such as speech, occupational therapy, physical therapy, and orientation and mobility training.)

11:15-11:45 AM

Toileting - The class is taken as a group to the nearby bathroom for toileting and handwashing in preparation for lunch.

11:45 AM-12:30 PM

The whole class goes together to the lunchroom where their trays are awaiting them on the table where they will be seated. They also leave as a group.

12:30-1:00 PM

Individual quiet activities-Same as from 10:30-1:15 AM

1:00-1:45 PM

Prevocational activities three times a week, e.g., sorting, assembling, and collating tasks; physical education in the gym twice a week.

1:45-2:30 PM

Toileting as a group followed by a goodbye circle and preparation for leaving.

2:30 PM

Exit for the school bus.

A typical day for Sergio in a program that reflects the model to be presented in this guide might look as follows:

Sergio's New Program

8:40-9:30 AM

Sergio exits from the school bus and walks to his locker; a nondisabled student meets him and serves as his sighted guide. Sergio hangs up his coat, exchanges greetings with others, and proceeds to his classroom. He indicates to his teacher whether he needs to use the toilet. If this is the case, he takes a pass and leaves for the lavatory, trailing the hallway wall as he has been taught to do by his teacher and the orientation and mobility specialist. The time when Sergio leaves the room is noted and one teacher assistant is responsible for checking on him if he has not returned within a reasonable period.

When Sergio returns from the lavatory he has the option of selecting a breakfast food. If he does not appear to know what he wants or how to proceed, his teacher or an teacher assistant engages him in a conversation about the choices available. There is apple juice or orange juice, and a selection of dry cereals. The juice cans and cereal have tactile cues so that students can differentiate between them. Sergio chooses his breakfast, serves himself with some assistance, and eats his breakfast along with another student and a teacher assistant, who converses with them.

9:30-11:15 AM

Sergio and Ed, a classmate, go with a teacher assistant to the mailroom of a nearby college for a vocational exploration experience. Sergio uses the letter stamping machine, under the supervision of a mailroom employee, with his teacher monitoring the situation. On this day the teacher and the mailroom employee confer about a better strategy for helping Sergio position the letters in the stamping machine. (Ed, in the meantime, is working under the supervision of another mailroom employee to place flyers in each mailbox.)

11:15-11:45 AM

Recreation period - Sergio goes to the school recreation room with a nondisabled schoolmate. They enjoy a game of (adapted) cards, while rock music plays in the background. Twice a week a schoolmate from the regular high school program comes to do things with him. On the other days, Sergio plays games with a classmate, aided by a teacher assistant.

11:45-12:30 PM

Lunch - Sergio, accompanied by another student of his choice and a teacher assistant, selects his own lunch foods. The three of them eat together.

12:30-2:20 PM

"Shopping Service" - This is the day for the once a week shopping service operated by Sergio's class. Sergio is one of the students who will participate in the project. For a 10% service fee the students purchase and deliver up to two items for each staff member from a selected shopping list of items available at a nearby supermarket. An updated version of the shopping list (with prices) is placed in each staff member's mailbox on Tuesday by one of the students. Shopping orders and money are collected by a student and teacher assistant on Wednesday morning. The shopping is done Wednesday afternoon by four students, with two students being assisted by the teacher and the other two students being assisted by a teacher assistant. Deliveries are also made Wednesday afternoon. (The 10% service fee earned by the students is used for special events enjoyed by them.)

2:20-2:30 PM

Preparation for departure. Sergio takes with him his personal videotape, i.e., a tape showing Sergio engaged in his vocational experience at the college mailroom.

2:30 PM

Exit for the bus.

GLOSSARY OF BASIC CONCEPTS

The key concepts in this curriculum, basic to the facilitation of the targeted adult life outcomes, are given below.

CHRONOLOGICAL AGE APPROPRIATENESS

Appropriateness of settings, activities, and instructional materials to students in accordance with their chronological age.

ENVIRONMENTAL MODIFICATIONS AND INSTRUCTIONAL ADAPTATIONS

A class of strategies for allowing individuals with disabilities to participate in activities that are typically available to individuals without disabilities.

ESTABLISHMENT OF A COMMUNICATION SYSTEM

Enabling students to effectively communicate their needs, desires, and feelings is an essential aspect of any special education program. This needs to be a major focus of instruction with students who have dual sensory and cognitive impairments.

AN APPROACH TO CHALLENGING BEHAVIORS

Assumes that all behavior has functional message value; that careful consideration must be given to identifying behaviors that truly need to be addressed as challenging; that one of the most effective responses to challenging behaviors is to provide positive alternatives that accomplish the same function for the individual, particularly alternatives that can be maintained by naturally available reinforcers; that respectful and affectionate techniques can help move the individual toward a state of meaningful human engagement, with a concomitant decrease in harmful responses.

FUNCTIONAL PROGRAMMING

Systematic instruction in activities or meaningful segments of particular activities, that has utility in terms of current and/or future lifestyles of individuals.

INSTRUCTION IN NATURAL SETTINGS

Provision of instruction in the natural contexts in which activities occur, with the assistance of persons whose presence is part of these natural contexts.

INTERACTION WITH NONDISABLED PERSONS

Programming to expand interaction and relationships with nondisabled peers as well as with adults in the school and community.

LONGITUDINAL (OR FUTURE) PLANNING

Coordinated planning by school personnel, families, and community service providers that deals with both current and future needs of individual students as they move toward adulthood. Transition planning may be thought of as one phase of longitudinal planning.

PARTIAL PARTICIPATION

Instructional inclusion of students when they are unable to independently perform any or all of the skills involved in an activity. Participation is achieved through adaptations in procedures and/or materials, and through shared responsibility for activity completion.

PERSONAL CHOICE

Programming to provide experiences that will assist students in discovering and amplifying their interests, allowing students to make real choices, and assisting them in developing a sense of control over activities that occur in their everyday lives.

TRAINING FOR GENERALIZATION

A methodology for teaching activities that enables students to respond appropriately across the social and physical environments in which these activities will be used.

STUDENTS TO BE SERVED WITH THIS CURRICULUM

The students for whom this curriculum was prepared have been identified as adolescents with visual or dual sensory impairments and moderate to severe cognitive disabilities. Students who have visual or dual sensory impairments reflect a wide range of functional abilities and diverse developmental histories. Sensory loss may have been present at birth or may have occurred later; the degree and type of sensory loss may vary greatly; differing combinations of visual and auditory impairments may be accompanied by different types and degrees of cognitive and perhaps physical, health, and/or behavioral disorders. These students may have limited means of communication, may not demonstrate choices or preferences, may show no signs of anticipation, may show little affect, and may exhibit severe self-injurious or assaultive behavior.

Because of the great variability within this student population, there is no one standard curriculum that can adequately address all of their needs. Thus, the curriculum materials that follow have been designed in such a way that they can be tailored to the particular combination of abilities and needs of individual students.

STUDENT PROFILES

Six profiles of students with visual or dual sensory impairments and cognitive disabilities follow. They are representative examples of high school students who could benefit from this transition curriculum. These profiles are composites of students with visual or dual sensory impairments and cognitive disabilities who are currently attending public secondary schools in New York State. These profiles are referred to throughout the handbooks to illustrate the curriculum and instructional strategies.

STUDENT PROFILE #1: Ed

Ed, who is 16 years old, has a significant visual impairment, but can use his vision for mobility and to locate objects. Ed's hearing is intact and he is able to follow directions such as returning food trays to his school cafeteria. Ed speaks in simple sentences, and has some echolalia. When asked a question he will often repeat the question before answering it. At other times he repeats advertisements and other phrases. He has satisfactory self-care skills, and enjoys interaction with peers, but does not initiate actions or interactions. Ed's mother provides him with many opportunities to learn domestic skills in his home.

STUDENT PROFILE #2: Sergio

Sergio, who is a 17 year old, is congenitally blind, with no vision. His hearing is intact and he speaks in short phrases or sentences. However, he is markedly echolalic. Sergio's family members usually speak Spanish in their home, and within the limits of his language ability Sergio is bilingual, even with his echolalia. Sergio has had indoor mobility training and can find his way to such locations as the lavatory and the school cafeteria but his opportunities for independent movement outside the classroom are curtailed because of his challenging social behavior. Sergio sometimes becomes agitated. In this state he may be self abusive, may strike out at others, and may throw objects.

STUDENT PROFILE #3: Robert

Robert, who is 18 years old, is deaf and visually handicapped with tunnel vision. He has Usher's Syndrome.* He was born with a severe hearing impairment, and began losing his vision at about age 14. A physically able young man, he is capable of taking care of his personal needs. He always comes to school well dressed and groomed. Robert experiences grand mal seizures every few weeks even though he is on medication to control them. Recently, Robert has begun exhibiting self-abusive behavior, e.g, hitting himself on some occasions. Communication is accomplished both receptively and expressively through approximately twenty signs and a picture communication book. Robert seems to understand and respond to some non-verbal expressions of emotion such as sadness, anger or joy. He is quite withdrawn and usually waits until activities have been in progress for some time before he becomes involved. However, on occasion, he initiates interaction. For example, he will sometimes use the sign for toilet to get permission to go to the lavatory; at other times he will leave the classroom without any gestures to staff.

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* Usher's Syndrome is a condition where an individual has profound congenital deafness and a progressive visual loss due to retinitis pigmentosa (RP). Although the person is born with RP, the symptoms do not generally manifest themselves until adolescence. The first symptom is night blindness. The second symptom is progressive, restricted visual fields.

STUDENT PROFILE #4: John

John is 19 years old. He is blind and has a high frequency hearing loss. John vocalizes and occasionally these vocalizations have communicative intent. He attends to some voice communication. However he receives communications primarily through touch signing. He demonstrates two signs to initiate communication, both relating to food. John engages in much self-stimulatory behavior, including masturbation. He can feed himself but he gulps down his food rapidly without pacing. He has recently been introduced to supervised cane travel and it has been noted that his self-stimulatory behavior ceases when he is traveling with his cane.

STUDENT PROFILE #5: Joanna

Joanna, who is 20 years old, has no usable vision or hearing. She has cerebral palsy and moves in a wheelchair with the help of others. She spent her early years in a large state institution. If Joanna recognizes a person, she initiates social communication through tactile contact, placing the person's hand on her shoulder or hair. She recognizes people through their distinctive characteristics such as a beard, a particular bracelet, or aftershave lotion. Otherwise, she recoils from touch. Joanna is on a toileting schedule. She also needs assistance in eating. She uses gestures to communicate, pantomiming eating when she is hungry, and holding or pulling on a part of her body that hurts.

STUDENT PROFILE #6: Maria

Maria is 15 years old. She has a severe visual impairment; however, she uses vision in conjunction with tactile cues to identify objects that are very close to her. As best as can be determined, Maria has a moderate hearing loss. She demonstrates motivation to communicate by such gestures as pointing, tugging, and pushing the adults around her toward places or objects. However, Maria has no speech, does not initiate signing, and appears to have little comprehension of signs. She demonstrates light gazing and other self-stimulatory behaviors.

RELATING TO PARENTS*

In this curriculum guide ideas are presented about how to involve parents in transition planning for their sons or daughters. These include gathering information from parents and developing goals for present and future activities with them. However, working with parents is not as easy and straightforward as one would hope it might be. By the time their children have reached adolescence, many parents of students with severe disabilities have become discouraged about their son's or daughter's prospects. Some parents, too, have become disheartened about the role that the school will play in assisting their child's development. If we want to involve these parents, we need to give them hope and show them what we are doing to move their sons or daughters closer to their visions for them.

School personnel often report that they cannot get parents to meet with them. This may be true in some cases. However, complaining about this is not an adequate response on the part of professionals. Instead, instructional staff should examine why they want to meet with parents, what they hope to accomplish by this, and then design alternative ways of reaching these goals.

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* References to parents are meant to include guardians as well.

Some of the traditional ways of relating to parents are:

- individual parent/teacher planning conferences
- team planning conferences
- parent education meetings
- parent counseling, both individual and group

All of these contacts traditionally take place in the school building and, with the exception of some parent education meetings, occur during school hours. Some of the ways in which creative school personnel have been able to attract the parents who might not otherwise have participated in such activities are:

- Changed the place where meetings occurred, e.g., met with parents in their own homes; met with parents at sites closer to their homes.
- Provided or arranged for transportation to and from meetings, e.g., organized parent car pools; provided money for the use of public transportation.
- Changed the time of the meetings in accordance with individual parent schedules, including some morning, afternoon, and evening hours.
- Arranged for child care services at the meeting place (and provided transportation for the children who must be cared for in this way).

- Used parents who have benefited from interaction with school personnel to encourage other parents to participate.
- Served food, e.g., provided coffee, tea, and sweets at meetings, or arranged brunch or luncheon meetings.

Even with these modifications, some parents may not be able or willing to participate in the activities described. Let's examine some alternate approaches to achieving the goals of these activities:

- Individual and team planning meetings: Telephone conferences may sometimes be substituted for face to face meetings. An initial telephone contact with a parent may need to be very brief and may focus upon arranging a convenient time for a future telephone conference. If telephone conferences are productive, they may lead to other forms of parent involvement. Some schools have telephone equipment that allows two or more persons at the school to exchange ideas with a parent during a tele-conference.
- Parent education meetings and parent counseling groups: Parent to parent support networks may sometimes attract and involve parents who are not interested in parent education and counseling groups.

> Such networks may include one-to-one parent to parent partners, telephone support networks, and other parent directed group activities. (Some of these activities may take place at parents' homes, at their own initiative; others may involve school personnel.)

Ongoing communication with some parents will still be difficult to establish and maintain. One purpose of such ongoing communication is to ensure that families and school personnel are working in congruent and complementary ways to support the development of students. Such factors as language barriers and limited parental skills in written language may interfere with such ongoing communication. Following is an idea that came from creative New York City Board of Education school personnel responding to this challenge:

> This school is located in a low income, inner city area. The students are predominantly Black and Hispanic. Parent participation in school activities was very limited for a variety of reasons including: concerns about safety during travel on public transportation to the school, negative associations with school, language barriers, the care demands of multiple young children. School personnel concluded that some means of relating to parents beside face to face meetings or telephone conferences (some families did not have telephones) was needed. The

mechanism that the school identified as being potentially valuable for such communication was the use of videotapes. School personnel investigated whether families had videotape players in their homes. School staff arranged to purchase a sufficient number of videotapes so that one tape could be assigned to each student/family. Each child was videotaped while engaged in learning experiences. These individual tapes were sent home with students, along with explanatory letters (letters were translated into Spanish for families where that is the dominant language). The letters explained that the videotape would be sent home periodically for family viewing to show how their son or daughter was progressing in school. Parents were encouraged to include comments, questions, and suggestions with the videotape when it was returned. In the case of those few parents who did not respond (in English or Spanish), school personnel followed up with telephone calls (where possible) to elicit parental reactions and to assess interest in becoming more involved in working with school staff.

Those few parents who did not have access to videotape players were invited to come to the school with any family members they chose to bring (including children), to view their son's or daughter's videotape. After it was ascertained that four families could get to the school in the morning, a breakfast showing was arranged. The activity had several benefits. First of all, it began to change parental perspectives about the school from that of a rather forbidding place to that of a place where families are welcome. Second, it set the stage for the initiation of parent to parent supportive contact. It also helped develop awareness on the part of some parents that their son or daughter could benefit from participating more actively in day-to-day activities in the home.

One example of the effectiveness of this videotape mechanism can be illustrated in relationship to Ed (See Profile #1, p.12). Ed was taught to use his residual vision in pouring liquids and was videotaped pouring juice during snack time. In Ed's home all food preparation and serving is done for him. His parents were not aware that he had developed skills in this area. The videotape provided an opportunity for parent-teacher communication about how Ed could be encouraged to participate more actively in meeting his own needs in the home.

In summary, this mechanism of a "videotape newsletter" can accomplish the following:

- arouse parental interest
- foster more positive associations with the school

- illustrate in a concrete way the capabilities of individual students
- demonstrate development and learning
- illustrate effective techniques of working with individual students
- stimulate family involvement in supporting greater participation by their son or daughter in home and community activities
- focus parent-teacher communication appropriately on student's education and growth*

Other useful ways of communicating with families about students include:

- Photograph notebook - An ongoing record of student activities that is sent home monthly. This notebook may include written descriptions and photographs of learning activities, along with suggestions for related home experiences.
- Invitations to social events where slides of student activities are shown.
- School/home telephone networking involving regularly scheduled telephone conferences to discuss student

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*Aside from the value of videotapes in developing ongoing communication with parents, this mechanism is an excellent way of keeping a record of individual student progress over time.

activities and family responses to them.

- A communication notebook in which parents and school personnel relate important information about student, school and family functioning on a daily basis.

FOR MORE INFORMATION

Ferguson, P.M., Ferguson, D.L. & Jones, D. (1988). Generation of hope: Parental perspectives on the transitions of their children with severe retardation from school to adult life. The Journal of the Association of Persons with Severe Handicaps, 13(3), 177-187.

PLANNING FOR STUDENTS

The focus of this section will be on transition planning. Transition refers to a significant change in a person's life. We all experience transitions in the course of our lives. For individuals with visual or dual sensory impairments and cognitive disabilities, change can be particularly difficult. This is especially true of the transition from school to adult life. Transition planning means taking a future perspective. It means planning for meaningful goals, objectives, and curriculum experiences in the present to support adult life, as well as making specific preparation for students' post-school experiences.

WHAT IS TRANSITION PLANNING?

Transition planning is a way of incorporating all relevant information about a student's current experiences and likely future experiences into the design of an appropriate curriculum. This concept has special significance when one is addressing the learning needs of adolescents who will soon be leaving school to move into the adult world. This information is then used to plan a curriculum that prepares the student for the demands that are currently facing him* or will in the future.

WHO PARTICIPATES IN THE TRANSITION PLANNING PROCESS?

Participants in the transition planning process are those people who are either very familiar with the student's needs and skills or who could play an active role in actualizing plans for the student's adult life. The members of the transition team, then, may vary with differences in school programs and personnel, community resources, the needs of each student, and his stage in the transition process.

The core transition team members are: the parent(s) or guardian, the teacher, the student (whenever possible), and a staff member of the program who serves as the transition coordinator or who assumes the responsibilities that go with this role.

The members of the multidisciplinary team responsible for the IEP (in New York State, the Committee on Special Education) should be involved to whatever extent possible, as it is this team that is legally assigned to design an appropriate program for the student. The participation of the school or program administrator is often very valuable. The participation of an adult service agency representative(s) is critical when students approach their last year in school and the path to appropriate adult services is not clear.

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* For ease of reading, students will alternately be referred to as feminine or masculine in various sections of this handbook.

HOW IS TRANSITION PLANNING DONE?

TALKING TO PARENTS

A good way to begin transition planning is to talk to parents. From parents you may want to learn: What are their goals for their daughter? What are their daughter's choices and preferences, likes and dislikes? What would they like to have their daughter learn to do or learn to do more independently?

A written questionnaire may be used by a teacher to help gather such information. Now turn to this questionnaire, "Planning Process: Parent Input", and examine it. (See pages 33-39.) Part I addresses the likes and dislikes of the student, and his activities. It is meant to be used at the first parent/teacher meeting, after the student reaches high school age, as is Part II, which deals with parent preferences for goals related to current functioning. Part III of this questionnaire deals with future goals. It is meant to be used at a later meeting between the parents, the teacher, and other relevant school staff members, e.g., transition coordinator, members of the team responsible for developing the student's Individualized Education Program (IEP). The information gathered through the three parts of this questionnaire provide school personnel with a foundation for designing appropriate long-range goals for students.

EXPLORING COMMUNITY OPPORTUNITIES

The next step in transition planning might be to learn about the services and learning options that are available in the community for students. If there is a transition coordinator assigned to the program, this person may assist instructional staff with this task.

The transition coordinator may be able to provide information about local adult service providers for day and residential programs, work options (sheltered and supported employment), recreation programs, and transportation.

UTILIZING SCHOOL-BASED DATA

All members of the instructional staff have many opportunities to collect information, both formal and informal, about student's abilities, needs, and preferences. This information, when used in conjunction with the information provided by parents and knowledge about services available in the community, provides the necessary base for transition planning. Transition planning is not the responsibility of the instructional staff alone.

Sometimes the input provided by parents is not completely congruent with school-based information or teacher beliefs about appropriate student transition goals and current school activities. The teacher may want to identify these differences in viewpoint, so that they can be explored with parents and other team members. Without such exploration, honest collaborative planning is likely to be thwarted. The Instructional Staff Questionnaire (See page 40) can be used to identify areas that need such exploration.

THE TRANSITION PLANNING MEETING

Now it's time to develop a transition plan. An individualized transition plan (ITP) may be thought of as an age appropriate individualized education program (IEP) for a student of high school age. In practice, it may be either an expanded version of an IEP or an IEP supplement. One sample form for an ITP is included at the end of this section. (See pages 41-47.)

Who should be at the transition planning meeting: certainly, the teacher, the parent(s) or guardian, the student if at all appropriate, the transition coordinator, relevant related service providers, and members of the interdisciplinary team responsible for planning the student's IEP. A transition planning meeting can take different forms. It may be a new way of looking at an IEP meeting; or it may stand on its own, but shape the thinking that will go into the official IEP meeting.

The mission of a transition planning meeting will change with the age of the student and how far removed he is from leaving school. For a 15 year old who has just entered a high school setting, the mission of the meeting might be to become better acquainted with the student's needs, preferences, and abilities, and with the family's goals. A transition planning meeting for a 19 or 20 year old will have a different mission, namely to plan more specifically for adult roles and supports. Both of these meetings, however, will focus on school goals to better prepare the individual for post-school life experiences.

Once a student has turned 18 (if not earlier), adult service agencies should be involved in the transition planning process. A representative of the appropriate state agency or agencies (in New York State the Commission for the Blind and Visually Handicapped, the Office of Mental Retardation and Developmental Disabilities, and/or the Office of Vocational and Educational Services for Individuals with Disabilities) should be asked to meet with the transition team, or representatives of the team, to outline possible services for the student and his or her family. Another approach to accessing adult service agencies is through local interagency transition councils, in those areas where such councils have been established. Representatives of community programs that might offer appropriate services to the individual student (including work programs) might also be asked to participate in meetings designed to explore post-school options.

GOAL SELECTION

Goal selection should be informed and guided by the demands of both current and future community environments. Parent Input Questionnaires I, II and III should be used as primary tools for goal definition. If a student's parents strongly desire to be able to take their daughter with them when dining out in restaurants, and her disruptive table behavior prevents this, then helping this student learn to behave appropriately while dining in a restaurant becomes a goal. If a student's participation in a Saturday recreation program in the community demands that the student display more independence in toileting and hygiene, then this should become a goal. If the possibility of a student being successful in a supported work program would be enhanced by school experiences that build up her ability to move about an indoor environment more independently, then demonstrating such increased mobility should become a goal, one which might be pursued through a variety of school and community experiences.

GOALS AND RISK

Any community-based program will involve more risk than a program which is strictly classroom based. Community living involves risk, but the payoff will be greater. Parents as well as teachers are often reluctant to expose the student to these risks. The alternative to learning to negotiate risk is to live one's adult life in a highly restrictive environment. However, parents must be involved in decisions about the selection of activities in the community that reflect normal risk-taking. A process of education and negotiation with parents about risk, and about the alternative to risk-taking, is called for. There will be some instances where parents will object to selected community experiences. Teachers should respect this, while continuing to demonstrate to parents the value of their students' participation in community experiences.

FOR MORE INFORMATION

Browder, D. (1987). Assessment of individuals with severe handicaps: An applied behavior approach to life skills assessment. Baltimore, MD: Paul H. Brookes.

PLANNING PROCESS: PARENT INPUT I
STUDENT PREFERENCES, STYLE, AND ACTIVITIES*

Student: ____________________ Parent Interviewed: ____________

Interviewer: __________________________ Date: _________________

Preferences and Style

1. a. How does your son or daughter make himself or herself understood to you and other family members?

   Speech ______________________
   Sign Language _______________
   Touch Sign _________________
   Gestures and Sounds ________
   Gestures _______________
   Pointing _______________
   Communication Device ___

   b. How do you communicate with your son or daughter?

2. When your son or daughter likes something, what does he or she do?

   Speaks, signs or uses communication device __________
   Laughs or smiles ______________
   Points or reaches out _________
   Takes or grabs _________
   Jumps or rocks _________
   Makes sounds (describe)__
   ____
   Other ________________

3. When your son or daughter dislikes something, what does he or she do?

   Speaks, signs or uses communication device _______
   Cries or Frowns _____________
   Screams _____________________
   Pushes or throws ___________
   Looks, pulls, or turns away ________________________
   Makes sound (describe) ___
   ____
   Gestures (describe) ______
   ____
   Other __________________

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* Sources from which some questionnaire items were adapted:

Turnbull, H.R., Turnbull, A.P., Bronicki, G.J., Summers, J.A., & Roeder-Gordon, C. (1989). Disability and the family: A guide to decisions for adulthood. Baltimore, MD: Paul H. Brookes.

Ford, A., Dempsey, P., Black, J., Davern, L., Schnorr, R., & Meyer, L. (1987). Parent input: Priority goals. In The syracuse curriculum-referenced curriculum guide for students with moderate and severe handicaps (pp. 325-337). Syracuse, NY: Syracuse University.

4. What are your son's or daughter's three or four favorite activities?

5. What are the three activities your son or daughter likes least?

6. Does your son or daughter begin activities on his or her own?
   Yes _______ No _______

   If yes, which ones?

7. Does your son or daughter seek out people to do things with?
   Yes _______ No _______

8. How does your son or daughter respond to new situations and settings?

   withdraws _______ gets upset ________ explores ______

   Describe what he or she actually does.

9. Describe how your son or daughter responds to children, teenagers, and adults in the community -- to neighbors, and to individuals in places he or she goes (e.g., ignores them, tries to communicate with children, pushes away people who get too close)?

Student Activities

10. For each of the activities listed below indicate whether your son or daughter does the activity independently, with help, or not at all.

	Independent	With Help	Not Done
Eating a meal			
Preparing a meal or snack			
Setting the table			
Cleaning up			
Selecting foods for meal or snack			
Dressing/Undressing			
Selecting clothes appropriate for activities and weather			
Selecting clothes to be purchased			
Using public toilets			
Managing menstrual care			
Shaving			
Making the bed			
Doing laundry			
Sweeping,mopping, or vacuuming			
Caring for plants			
Other housework (Specify)			

	Independent	With Help	Not Done
Using the telephone			
Using television or radio			
Using tape recorder or record player			
Shopping in neighborhood food store			
Eating in a restaurant			
Using neighborhood services (e.g., barber, cleaning store)			
Walking in the neighborhood			
Using local public transportation			
Participating in sports			
Attending religious service			
Using a park			
Going to a movie or musical event at a theatre			
Attending a neighborhood "Y" or other recreational agency			

Comments

PLANNING PROCESS: PARENT INPUT II

GOALS FOR CURRENT HOME AND COMMUNITY LIVING

Student:______________________ Parent Interviewed:_______________

Interviewer:__________________ Date:______________________________

1. What would you like your son or daughter to learn in school to increase his or her participation in family life?

2. What would you like your son or daughter to learn in school to increase his or her participation in community activities?

PLANNING PROCESS: PARENT INPUT III

Goals for Adult Life

Student:____________________ Parent Interviewed:__________

Interviewer:________________________ Date:________________

1. What would you like your son or daughter to do after finishing school?

    a. Living arrangements: Where would you like him or her to live?

    b. Travel: How would you like him or her to travel to activities?

    c. Work or other daily activity: Would you like him or her to work? If yes, what kind of work would you like your son or daughter to engage in? If no, what other kinds of activities?

    d. Recreation activities (free time): What would you like him or her to do during free time?

2. Has your son or daughter ever indicated anything that he or she would like to do as an adult?

    If yes, what?

School Learning for Adult Life

3. What would you like your son or daughter to learn while he or she is still going to school in preparation for adult life? Give two or three activities in each of the areas below.

    a. Household activities:

    b. Personal hygiene, grooming, and dressing:

    c. Recreational activities:

    d. Neighborhood activities:

    e. Personnel Management:

4. What kinds of work experiences would you like your son or daughter to have while still in school?

INSTRUCTIONAL STAFF QUESTIONNAIRE

Please indicate any areas in which there is a difference between parental viewpoints and your own viewpoint on current school activities and on transition goals.

CURRENT SCHOOL ACTIVITIES

TRANSITION GOALS

INDIVIDUALIZED TRANSITION PLAN

NAME OF STUDENT____________________ DATE OF BIRTH__________ DATE OF PLANNED MEETING____________

PLANNING TEAM____

TRANSITION OPTIONS	GOAL	SCHOOL REPRESENTATIVES & RESPONSIBILITIES	PARENT/FAMILY RESPONSIBILITIES	AGENCIES INVOLVED RESPONSIBILITIES & CONTACT PERSON	SUPPORTIVE IEP GOAL(S)/OBJECTIVE(S)
VOCATIONAL PLACEMENTS					
Competitive	___				
Supportive	___				
Sheltered	___				
Specify the above or other	___				
____________________					
____________________					
____________________					
Identify current & past Vocational Experiences_____					
____________________					
____________________					

NAME OF STUDENT____ DATE____________________________________

TRANSITION OPTIONS	GOAL	SCHOOL REPRESENTATIVES & RESPONSIBILITIES	PARENT/FAMILY & RESPONSIBILITIES	AGENCIES INVOLVED RESPONSIBILITIES & CONTACT PERSON	SUPPORTIVE IEP GOAL(S)/OBJECTIVE(S)
LIVING ARRANGEMENTS					
With Family	____				
Semi-independent Living	____				
Community Residence	____				
Specify the above or other	____				
__________________________					
__________________________					
__________________________					
__________________________					
Identify current living arrangements______________					
__________________________					
__________________________					

NAME OF STUDENT________________________________ DATE____________________

TRANSITION ISSUES	GOAL	SCHOOL REPRESENTATIVES & RESPONSIBILITIES	PARENT/FAMILY RESPONSIBILITIES	AGENCIES INVOLVED RESPONSIBILITIES & CONTACT PERSON	SUPPORTIVE IEP GOAL(S)/OBJECTIVE(S)
RECREATION AND LEISURE					
Use of integrated, community facilities & programs	____				
Use of specialized facilities & programs	____				
Specify the above or other	____				
____________________					
____________________					
____________________					
____________________					
____________________					
Identify current recreation and leisure programs being used					
____________________					
____________________					
____________________					

NAME OF STUDENT________________________________ DATE____________________

TRANSITION ISSUES	GOAL	SCHOOL REPRESENTATIVES & RESPONSIBILITIES	PARENT/FAMILY RESPONSIBILITIES	AGENCIES INVOLVED RESPONSIBILITIES & CONTACT PERSON	SUPPORTIVE IEP GOAL(S)/OBJECTIVE(S)
TRANSPORTATION					
Provided by family	____				
Public Transportation	____				
Specialized transport	____				
Orientation & Mobility assistance	____				
Specify the above or other____________________ ____________________ ____________________ ____________________					
Identify current modes of transportation used________ ____________________ ____________________ ____________________ ____________________					

NAME OF STUDENT________________________________ DATE____________________

TRANSITION ISSUES	GOAL	SCHOOL REPRESENTATIVES & RESPONSIBILITIES	PARENT/FAMILY RESPONSIBILITIES	AGENCIES INVOLVED RESPONSIBILITIES & CONTACT PERSON	SUPPORTIVE IEP GOAL(S)/OBJECTIVE(S)
INCOME					
SSI	____				
SSDI	____				
Food Stamps	____				
Earnings	____				
Other (specify) __________	____				
____________________					
____________________					
____________________					
Identify the above types of assistance being received__					
____________________					
____________________					
____________________					
____________________					

NAME OF STUDENT________________________ DATE____________________

TRANSITION ISSUES	GOAL	SCHOOL REPRESENTATIVES & RESPONSIBILITIES	PARENT/FAMILY RESPONSIBILITIES	AGENCIES INVOLVED RESPONSIBILITIES & CONTACT PERSON	SUPPORTIVE IEP GOAL(S)/OBJECTIVE(S)
MEDICAL CARE					
Insurance					
Medicaid	____				
Medicare	____				
Other (specify)________ ____________________	____				
Specialized health care____ ____________________ ____________________	____				
Other (specify)____________ ____________________	____				
Identify current health insurance____________ ____________________					
Identify current services being used____________ ____________________					

NAME OF STUDENT________________________ DATE________________

TRANSITION ISSUES	GOAL	SCHOOL REPRESENTATIVES & RESPONSIBILITIES	PARENT/FAMILY RESPONSIBILITIES	AGENCIES INVOLVED RESPONSIBILITIES & CONTACT PERSON
FAMILY SUPPORT				
Peer support network	____			
Parent education	____			
Counseling	____			
Respite care	____			
Economic assistance	____			
Legal services (trusts, wills, guardianship)	____			
Advocacy	____			
Specify the above or other	____			
____________________				
____________________				
Identify current family support services used______				
____________________				
____________________				

SECTION III: COMMUNITY-BASED INSTRUCTION AND VOCATIONAL EXPERIENCES

INTRODUCTION

Community-based instruction and vocational experiences are central to this curriculum. These areas focus upon integration in the community, both currently and in the future. The best way to prepare someone for living and working in integrated communities is to provide them with supported instructional experiences in these areas. It is never too early to introduce students to community-based instruction and vocational experiences. However, it becomes urgent to do so as students enter adolescence and move closer to leaving school.

COMMUNITY-BASED INSTRUCTION

WHAT IS COMMUNITY-BASED INSTRUCTION?

Community-based instruction is the systematic and frequent training of relevant functional activities in community settings where they would actually be performed.

WHY TRAIN IN THE COMMUNITY?

Students with severe disabilities have significant problems generalizing what is learned in school to new, real life situations. Training in the community provides familiarity with the natural cues found in the environment that a classroom cannot offer. Natural cues are those events, objects, or people, that serve as signals to alert and guide individuals to appropriate actions. For example, the feel of cold air is a natural cue for buttoning one's coat. It has also been noted that many students with visual or dual sensory impairments and cognitive disabilities do better at real activities in the actual settings in which they occur, than in simulated experiences in made up contexts.

WHAT IF THE STUDENT IS NOT "READY" FOR COMMUNITY-BASED INSTRUCTION?

Every student is ready for some types of community-based instructional activities. Teachers and other professionals need to be careful not to fall into the "readiness" trap, i.e., the belief that functional skills cannot be taught unless a set of pre-requisite motor, cognitive, and social skills have been completely mastered. Another way of viewing this situation is that every student can participate in some aspects of functional activities in the community with appropriate adaptations and support. Moreover, motor, cognitive, and social skills can often be taught within the framework of community-based functional activities.

WHAT INSTRUCTIONAL STRATEGIES ARE BEST FOR TEACHING COMMUNITY-BASED ACTIVITIES?

There are several strategies for teaching functional activities involved in community living. Direct instruction in natural settings is the most basic of these strategies. Direct instruction means teaching an activity in the environment and context in which it naturally occurs. Teaching for generalization should be added to direct instruction when an activity is to be performed in varied situations, and training cannot occur in all these contexts.

Simulation may be combined with instruction in natural settings when practical considerations limit the amount of community instruction that is feasible, or when intensive practice is needed on a specific skill within an activity. Below are examples that illustrate the selection of appropriate instructional strategies.

1. SIMULATION PLUS DIRECT INSTRUCTION IN A NATURAL SETTING
   When having a student learn to make his own bed is important to the student's parents, the teacher might use a combination of simulation and direct instruction for this purpose. First the teacher would collect information about the student's bed and bedding. If there is a training apartment or training room for household activities available at the school, it would be used for part of the training. If there was no such facility at the school, the school would seek to establish a relationship with a group home or other agency in the community where the simulation could be implemented. (The transition coordinator could assume this responsibility.) However, training on the student's own bed would have to take place sometime in this process. The student's parent(s) might be included in the training process by observing the simulation and conducting direct instruction on the student's bed at home.

2. DIRECT INSTRUCTION PLUS TEACHING FOR GENERALIZATION IN NATURAL SETTINGS

Ed (See Profile #1, p.12) enjoys washing dishes. His teacher and parents agree that this might be an appropriate vocational activity for Ed, and the transition coordinator confirms that there are positions available for dishwashers in local businesses. As it is not possible to train Ed at all possible job sites, teaching for generalization must be undertaken. The teacher and transition coordinator identify three sites in the school and community where Ed could be trained that capture most of the major variations that Ed might encounter in dishwashing jobs. Training proceeds at these sites.

3. DIRECT INSTRUCTION PLUS SIMULATION PLUS TRAINING FOR GENERALIZATION

John's teacher (See Profile #4, p.14) has selected tablesetting as his training objective. John seems to enjoy using his hands, and he participates actively in food related experiences. Furthermore his family has sit-down dinners most evenings in which the table is set in advance. The teacher decides to train tablesetting at the school's simulated apartment because the family home is not accessible for training on a regular basis. To make the simulations as similar to the home environment as possible, the teacher speaks with John's mother about the variations in table settings that John would experience, e.g., placemats vs. tablecloth, types of plates and cutlery, and number of people who might be eating. The teacher also arranges for John to be trained at a neighborhood group home on several occasions. John's parents agreed to participate in this training by allowing John to set the table at home under the conditions indicated by his teacher.

WHEN SHOULD GENERALIZATION TRAINING BE USED?*

Generalization training should be used when an activity is expected to vary considerably in the day-to-day life of a particular student, and it is impossible to provide direct training on all variations. In deciding whether generalization training should be used for a particular activity with a particular student or students, ask the following questions: Will the student need to perform the activity in several different locations, with different people, different natural cues, and/or different task demands? Is it impossible to train the student directly at all of these different locations? If you answer "yes" to these questions, generalization training is appropriate.

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* The procedure used in this handbook to illustrate generalization training is called general case programming. See Horner, Meyer, & Fredericks reference for more information on this approach.

EXAMPLE:

In training a student to make beds to prepare her to work at one of several hotels in town, generalization training is appropriate because the activity might include making beds of varying sizes and types with different bedding, in different locations, and it would be impossible to train at all locations. If the objective is to train a student to make her bed at home, generalization instruction is NOT required because the student will be making the same bed all the time.

WHAT ARE THE STEPS IN IMPLEMENTING COMMUNITY-BASED PROGRAMMING?

Listed below are the steps for implementing community-based programming. The process involved in implementing these steps will be illustrated in the case study that follows.

1. Identify appropriate community living activities and specify training objectives for each activity, including the place(s) where the activity will ultimately be performed.
2. Decide if the chosen objectives require simulation or training for generalization.

3. Conduct a task analysis to identify major steps that must be performed in each activity.

4. For activities requiring generalization training, identify the variations of cues (stimuli) for each step of the activity.
5. For activities requiring generalization training, choose training examples.
6. Identify need for adaptations and partial participation.
7. Organize procedures for implementing training.
8. Implement training procedures.
9. Collect data on effectiveness of training.
10. If necessary, redesign training procedures.

EXAMPLE: Robert (See Profile #3, p.13.)

STEP 1 - IDENTIFICATION OF APPROPRIATE COMMUNITY LIVING ACTIVITIES*

Appropriate community living activities were identified through Robert's IEP/ITP goals. Robert's parents are very eager to have him participate more in community activities with them. This includes activities like visiting the homes of relatives, going to church, and using local stores and restaurants. What keeps them from involving Robert more in these activities is his self abusive behavior, limited communication skills, and lack of participation. His mother is particularly eager for Robert to learn to use public toileting facilities independently, so that she can go places with him when Robert's father can't accompany them. Teacher observations of Robert confirms that he needs assistance in these areas. Therefore, Robert's IEP/ITP includes the following goals:

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* For additional information on this process see Activity Selection Guidelines, p. 229.

- To reduce Robert's self-abusive behavior.
- To increase Robert's participation in functional and recreational activities in the community.
- To improve Robert's expressive communication.

The activities that Robert's teacher and mother selected for working toward these goals were:

- Obtaining his medication from the 5th Street pharmacy (to increase Robert's participation in functional activities in the community, and to improve his expressive communication in functional situations through the use of a portable communication book with tangible symbols)
- Playing dominoes with his brother or a cousin in the home of one of his aunts (to increase Robert's interaction with others, and to reduce his self-abusive behavior by increasing his participation in social situations)
- Engaging in rug hooking or another craft that can be

performed alone at home or while visiting the homes of relatives (to decrease Robert's self-abusive behavior by giving him a meaningful leisure activity involving active use of his hands)

- Using public toilets at several sites, including a shopping mall, church, fast food restaurant, and another restaurant near his home (to increase Robert's participation in community activities)

STEP 2 - DECIDE IF THE CHOSEN ACTIVITIES REQUIRE SIMULATION AND/OR GENERALIZATION TRAINING

Robert's teacher now examines these activities to determine which require generalization training, simulation, or a combination of both.

- Buying medication: generalization training not required because one pharmacy is used and the procedure varies very little. Simulation training not required because the pharmacy is within walking distance of the school. Therefore, only direct instruction is needed.
- Playing dominoes: generalization training not required. Dominoes vary little in appearance and in the procedure for playing. (Generalization training could be used in teaching Robert to play with different people and by himself, in different settings.) Simulation is required because the Aunt's home is not easily accessible to the school, and Robert's brother and cousins are not often available for

training. Therefore, simulation plus direct instruction is required.

- Engaging in rug hooking (or related activity): generalization training is not required. While there is some variation in the patterns on the canvas, the procedure does not vary. Simulation not required because rug hooking is a portable activity that can be engaged in at school. Therefore, only direct instruction is needed.
- Using public toileting facilities: generalization training required. This activity may vary in setting, type of toilet or urinal, type of flushing mechanism, type of sink, soap dispenser, and hand drying facility. Furthermore, training cannot take place in all community sites where this activity may occur. Simulation is necessary as the targeted shopping mall, church, and restaurants are a long distance from the school and cannot be utilized frequently. Therefore, direct instruction must be supplemented by simulation and generalization training.

STEP 3 - CONDUCT A TASK ANALYSIS

Below is a sample task analysis for using toilets in public facilities. Handwashing will be taught later as a separate skill.

Using Public Toileting Facilities

1. Open the door to men's room and enter it.

2. Walk to area within the facility where the stalls[*] are located.
3. Find an empty stall.
4. Enter and lock door.
5. Unfasten clothes and use toilet.[**]
6. Locate toilet paper and use (if needed).
7. Flush the toilet.
8. Fasten clothing.[***]
9. Unlock the door and exit toilet stall.
10. Exit the area with the stall(s).
11. Proceed to sink and wash and dry hands.[****]
12. Exit the toileting facility.

STEP 4 - IDENTIFY THE VARIATIONS OF CUES (STIMULI) FOR EACH STEP IN THE ACTIVITY

Robert's mother had indicated that she wanted to be able to take Robert to a shopping mall near their home, to their church, to a fast food restaurant close by, and to another local restaurant. The teacher needed a description of the toileting facilities at each of these sites, including the type of toilet or urinal, the type of flushing mechanism, the type of doors and lock (if any), the type of toilet paper dispenser, and the layout of the facility. An example of variation in cues (stimuli) for flushing the toilet could be a lever protruding from a water tank, or a button on the wall behind the toilet. Robert's mother did not have this information but she agreed to have Robert's father and brother collect it*. To assist them in doing this, the teacher gave the family a sheet listing all the types of information needed. The information that was obtained by Robert's family is shown on pages 62 and 63. (A member of the training team had visited one of the sites to supplement the data collected by Robert's family, as there were some gaps that needed to be filled.)

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[*] The teacher focuses on stalls rather than urinals at this point. Use of urinals can be added later.

[**] As Robert has already mastered this process, it will not be included in further analysis.

[***] As Robert has already mastered this process it will not be included in further analysis.

[****] The skill sequence for handwashing has not been included in the sequence that follows.

STEP 5 - CHOOSE TRAINING EXAMPLES TO TEACH EACH ACTIVITY (FOR ACTIVITIES REQUIRING GENERALIZATION TRAINING)

Robert's teacher kept the following guidelines in mind in selecting training situations.

- Select examples that reflect the range of situations in which the student will be expected to perform the activity. (Robert's training needs to reflect the range of toileting facilities that he will encounter.)

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* If Robert's family had not been able to collect this information, the teacher would have had to find another way of accomplishing this, e.g., having a male member of the transition team gather the information, asking a worker at each of the sites to get this information.

- Select training examples that are readily accessible. (Robert's teacher needs to identify public toileting facilities that are near the school and are accessible to Robert.)

INFORMATION RECORD: TOILET FACILITIES IN COMMUNITY

Student: Robert

Name of Person Collecting Information: Robert's father Date: 5/6/90

TASK ANALYSIS	STIMULUS/RESPONSE VARIATION			
	Church	Shopping Mall	Fast Food Restaurant	Other Restaurant
Open door to men's room and enter (What actions open the door, e.g. push, turn knob and pull, pull bar)	turn knob and pull	pull handle on door	push door	push door
Walk to area where stalls are (route to stalls, e.g., walk past sinks and make a left, walk to right of inner wall)	only one toilet to the immediate left of door	after entering, walk straight ahead past area of urinals on left and sinks on right	after entering go to the right of an inner wall	after entering stalls on right
Find an empty stall (e.g., Are doors on empty stalls ajar; closed but easily pushed open; closed and knob must be turned to open?)	no separate stalls-only outer door to facility	empty stalls have doors that are closed but can be pushed open easily	empty stall doors may be ajar or closed but push open easily	stall doors have handle to pull

TASK ANALYSIS	STIMULUS/RESPONSE VARIATION			
	Church	Shopping Mall	Fast Food Restaurant	Other Restaurant
Lock stall door (Types of locks, e.g., sliding lock, hook and eye, push button)	hook and eye lock	sliding lock-must be pushed to left	sliding lock-must be pushed to left	sliding lock pushed to left
Locate toilet paper (location of dispenser, and type of dispenser, e.g. roll or single sheet, on right or left)	toilet paper roll on wall to right of toilet	separate sheet toilet paper dispenser on wall to right of toilet	separate sheet toilet paper dispenser on wall to right of toilet	toilet paper roll on wall to left of toilet
Flush toilet (type of and location of flusher, e.g. on tank, on right wall, lever, button)	push down lever on left of tank	push down lever protruding from left of pipe	push button on wall behind toilet	push down lever on left of tank
(Remaining steps are reverse of steps already identified)				
List any other special feature(s) of the toileting facility important for helping Robert, e.g., steps to enter	none	none	none	none

The teacher identified the range of relevant variations for Robert from the data on the Information Record. The teacher decided that the important variations are as follows:

Opening the door	variations not important because Robert can open all the different types of doors
Locating stall area	important variations are facility with no separate stall and only one toilet, stalls straight ahead, stalls to right
Identifying unused stalls	important variations are unlocked doors that are ajar, or that push open easily, or that pull open easily
Locking door	important variations are hook and eye locks, or sliding doors
Locating toilet paper	important variations are dispenser to right or left, continuous sheets or single sheets
Flushing Toilets	important variations are lever to push down or button on wall to push

Using the guidelines and the information about relevant variations, Robert's teacher was prepared to select training sites. The teacher decided to use one of the targeted sites given by Robert's mother as a training site for direct instruction. She chooses the fast food restaurant as it is the easiest to get to and from the school and contains much of the variation needed to train Robert to use toileting facilities in the community, i.e., stalls straight ahead, stall doors that push open, sliding locks on doors, single sheet toilet paper dispenser to right, push button flusher on wall. Now she considers sites in the school and community that capture the remaining relevant variations. A toilet at a nearby group home* is selected as another training site as it captures several of the remaining variations. It has only one toilet, has a hook and eye lock, a toilet paper roll, and a lever to push down. A third training site is needed to capture most, if not all, of the remaining variations. A department store toileting facility is selected as it is easy to get to. This site is much like the fast food restaurant except that its stalls are on the right and a handle must be pulled to open the stall doors.

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* The transition coordinator has worked out an agreement with this group home that allows students to use common areas of the group home for training.

STEP 6 - IDENTIFY THE NEED FOR ADAPTATIONS AND PARTIAL PARTICIPATION

The teacher should consider temporary and permanent adaptations that would facilitate performance of the activity in the community.

STEP 7 - ORGANIZE PROCEDURES FOR IMPLEMENTING TRAINING

The teacher should consider the following issues:

- Nature of the training group. (Robert's training may occur on a one-to-one basis, or in a small group with other students for whom this training is appropriate.)
- The time of the day and week when training activities will occur at each training site. (Initial training should not take place at high use times. At some later point training would need to occur at the time when the activity would typically take place. A schedule for training should be established. Training should occur at more than one site on each training day. See sample that follows.)
- Who should be involved in the training. (If the teacher is female, a male member of the program or transition team could assume a major role in this community training or arrangements could be sought to allow the initial training to take place when the toileting facilities are not in use by others, with a male staff or transition team member being brought in for the later stages of training.)

- Arrangements for getting the students to and from the training sites. (The transition coordinator may assist in making needed arrangements.)

EXAMPLE*: Robert's Training Schedule for Using Community Toileting Facilities

Monday:	9:00-10:00	group home
Monday:	11:00-12:00	department store
Wednesday:	9:00-10:00	fast food restaurant
Wednesday:	11:00-12:00	group home
Friday:	10:00-11:00	department store
Friday:	1:00-2:00	fast food restaurant

STEP 8 - IMPLEMENT TRAINING PROCEDURES

- Implement training for typically occurring situations.
- When typical situations have been mastered, introduce atypical or infrequently occurring situations. (Robert's training in this phase might include a toilet that is out-of-order, lack of toilet paper, or a situation in which all stalls are occupied.)

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* This schedule is tied to already established community-based activities, e.g., doing laundry at the group home, having breakfast in a restaurant, shopping in a department store.

STEP 9 - CONDUCT ON-GOING ASSESSMENT (MONITORING) OF THE EFFECTIVENESS OF THE TRAINING

Is the student showing increased competence in performing the activity? On which steps does the student show increased mastery? On which steps is there no such evidence?

- Use non-trained probes to assess mastery. (If Robert has acquired a general skill in using community toileting facilities he will be able to demonstrate this by appropriately using toileting facilities other than those used in training. One of the targeted facilities not used in training may be used as a probe for some variations.)

STEP 10 - WHEN NECESSARY, REDESIGN TRAINING PROCEDURES

Consider whether additional adaptations or changes in instructional strategies are needed in relation to either the entire activity or to those segments of the task on which no progress is evident. (Analysis of errors that Robert made on non-trained probes may provide guidance on any modifications needed in training procedures.)

THE TEACHER'S ROLE IN COMMUNITY-BASED INSTRUCTION

In programs using community-based instruction the roles of teachers, teaching assistants, and related service personnel change dramatically. These changes come hand-in-hand with the shift from the classroom to the community as the primary instructional setting. Teachers spend a markedly increased proportion of their time communicating with parents about goals and specific objectives; analyzing community sites relevant to students' current (or probable) future activities; identifying training sites; devising appropriate adaptations; and working with teaching assistants, related service personnel, and the transition coordinator to implement training procedures in the community. This is a far cry from the traditional concept of a teacher working with students in the classroom from 9:00 AM to 3:00 PM; but adolescents with cognitive disabilities and visual or dual sensory impairments are not traditional students, and their needs cannot be met in the traditional mode.

FOR MORE INFORMATION

Horner, R.H. McDonnell, J.J., & Bellamy, G.T. (1986). Teaching generalized skills: General case instruction in simulation and community settings. In R.H. Horner, L. Meyer, & H.D. Fredericks (Eds.), Education of learners with severe handicaps: Exemplary service strategies. Baltimore, MD: Paul H. Brookes.

Lapp, J., Passenger, B., & Wilcox, B. (1982). Community-based training: Adaptations for students with multiple handicaps. Unpublished manuscript, Eugene, OR: University of Oregon, Specialized Training Program.

Rainforth, B., & York, J. (1987). Integrating related service in community instruction. Journal of the association for persons with severe handicaps, 12(3), 190-198.

VOCATIONAL EXPERIENCES

Until recently, there were very few, if any, opportunities for adults with visual or dual sensory impairments and cognitive disabilities to obtain paid employment in integrated work settings. With the introduction of supported employment programs in the mid 1980's new opportunities for paid work in typical, integrated work settings began to open up for adults with these severe disabilities.

Direct preparation for supported employment needs to begin with students of high school age because students with severe disabilities often require considerable time and assistance with this process. Also, adult vocational services are not a guaranteed right, and the likelihood that a student will be considered eligible for vocational services after leaving school increases when a student has demonstrated vocational potential while still in school.

SPECIAL EDUCATION AND SUPPORTED EMPLOYMENT

Students with visual or dual sensory impairments and cognitive disabilities need to be prepared for the integrated vocational opportunities involved in supported work programs. Curricula for these students should include several vocational exploration and training experiences that may lead to "permanent" paid vocational placements in integrated jobs. Vocational experiences may, in fact, be the core of the curriculum for students during the last two or three years before they leave school. High school special education personnel working with adolescents who have visual or dual sensory impairments and cognitive disabilities have a critical role to play in vocational preparation.

SUPPORTED EMPLOYMENT

Supported employment is an approach to the vocational (re)habilitation of adults with severe disabilities that involves paid employment, for a minimum of 20 hours per week, in integrated work settings. A work site is considered integrated if it has eight or fewer people with disabilities working at a site that is not adjacent to another disability program. Supported employment is different from most other vocational (re)habilitation approaches in that it is not a time limited service. Ongoing support is provided, for the working life of a person if necessary, to ensure that employment is maintained.

There are four basic approaches to providing support for employed individuals who have severe disabilities, and there have been many successful variations and combinations of these strategies.

INDIVIDUAL SUPPORTED JOBS IN COMMUNITY BUSINESSES

Supported employment staff find part-time or full-time jobs for people with disabilities in business or industry. A job analysis is performed by the trainer prior to placement in order to understand the skills, routines, and social environment of the work place. People with disabilities are given intensive, continuous, on-site training that is gradually reduced as they gain competence. However, support is never totally withdrawn.

This approach provides for maximum integration of persons with disabilities, and allows them typical community access. However, this approach may be too expensive to implement for some people with severe disabilities who need continuous supervision.

ENCLAVES/WORK STATIONS IN INDUSTRY

Instead of individual jobs, the enclave approach involves training and support of a group of individuals with severe disabilities at a business or industrial site. Enclaves provide integrated employment with continuous, ongoing support and supervision for several workers. This is a less expensive supported employment model for some people with severe disabilities.

MOBILE WORK CREWS

These are small businesses that generate employment for persons with disabilities by selling services (e.g., janitorial, groundskeeping) to local customers. Work contracts are first obtained and then training and continuous supervision are provided. Workers with disabilities work along with support staff and nondisabled mobile work crew employees.

The mobility of the crew and the fact that people with disabilities are grouped together produces certain barriers to integration. However, some integration is achieved through contact with nondisabled persons at work sites, and through use of surrounding community services during breaks, lunchtime, and after work.

STATIONARY SMALL BUSINESSES

This approach is a small business like the mobile work crew except that work is typically performed at one site. This sounds similar to a sheltered workshop except that no more than eight people with disabilities can work at a small business for it to qualify as supported employment, and other strategies must be used to enhance integration, e.g., employing nondisabled workers, structuring work to foster customer contact, and using community resources near the work place. To qualify as supported employment, small businesses (stationary or mobile) must be able to obtain enough work to keep all employees with disabilities working no less than 20 hour per week, and must provide training and supervision to all employees.

IS SUPPORTED EMPLOYMENT APPROPRIATE FOR ALL STUDENTS WHEN THEY LEAVE SCHOOL?

Teachers and other members of the special education team may believe that some students will not be able to participate in supported employment experiences. While this may be true at present for some students, many students who in the past were not even considered candidates for sheltered workshops are today succeeding in supported employment programs. Appropriate vocational experiences during the high school years along with skillful job analysis, training, and adaptations are the keys to making students successful within supported employment options.

The 20 hours a week requirement for supported employment may present a problem for some students. This potential obstacle may be thought of in two ways. Vocational experiences in school may be geared toward preparing and enabling students to engage in work experiences for 20 hours per week. For those students who still are not able to participate for this amount of time, and who therefore are not able to enter supported employment programs upon leaving school, many valuable skills may have been acquired that will assist the individual in community living. Furthermore, if parents, service providers, and other advocates find that the 20 hour per week minimum is keeping young people with severe disabilities from engaging in work experiences for which they are otherwise capable, some way may be found for making this stipulation more flexible. In fact, some states are already exploring ways to achieve this.

IS TRAVELING TO WORK A BARRIER TO SUPPORTED EMPLOYMENT?

Traveling to work need not become a barrier to employment after the student leaves school, but avoiding this situation may require school and adult service staff to plan creatively to meet students' travel needs. When selecting vocational training experiences, school staff should consider employment opportunities near students' homes. If students are trained for jobs that exist in their local communities, they will be more likely to obtain jobs near their homes, thus eliminating or meaningfully reducing the transportation barrier.

If students will need to travel to work, several alternatives should be considered. Employees at a work site may already have a car pool that a new worker may join. A job coach could create a car pool that would be of benefit to several employees including the employee with a disability. Other alternatives are for a fellow employee, neighbor, or relative who works near by, to drive, or escort on public transportation, the employee with a disability. These car pooling and escort services can be volunteered or paid for via a small service charge. Engaging a car service to drive a person with a disability to work is another option, but it is usually more expensive. Nevertheless, all fees paid for transportation to work (including escort services) are deductible from income when SSI cash benefits are calculated.

Some communities have or are in the process of planning paratransit systems. Such systems may meet the needs of some individuals in supported work programs, particularly if they allow escorts to travel free of charge with the individual. Furthermore, some states are considering the inclusion of transportation services in supported work programs for individuals with dual sensory impairments and cognitive disabilities and for others for whom transportation is a major barrier.

HOW SHOULD SECONDARY SPECIAL EDUCATION PROGRAMS BE ORGANIZED TO PREPARE STUDENTS VOCATIONALLY?

One model for organizing vocational preparation experiences for adolescents with severe disabilities is The Opportunity Scheduling Approach (Wilcox, McDonnell, Bellamy and Rose, 1988). This approach is designed to begin when students first reach the ages of 14 or 15 and continues to age 21. For the first four years a student is given the opportunity to sample a range of vocational experiences so teachers and parents can better assess vocational interests and capabilities. A student samples different types of jobs in areas like food services, office services, and agriculture. Support strategies (e.g., enclaves, individual supported jobs), and related skills or other employment aspects (e.g., transportation, stability of job duties, physical demands, degree of public contact) should also be sampled. During these years (15-18), students' IEP/ITPs would specify two job placements per year where students gain job skills and demonstrate their ability to work. At about age 18 parents, school staff, and the student choose a job area within which the student will receive more specific training. This choice is made by reviewing the student's previous work performance and interests, parents' preferences, and potential post high school employment opportunities in the community. A general type of job and support option is identified, and the student samples a relatively restricted range of work conditions within that job area. For example, dishwashing within the food service area at a work station in industry could be selected as the general employment target and support option. In addition to training job skills and routines during this phase, specific adaptations and supports required by a student to succeed at this type of employment would be identified.

The final phase of the Opportunity Scheduling Approach requires that students be placed in a specific paid supported job during their last year in high school. The selection of a job is based on a student's work training history and local employment opportunities. Responsibility for ongoing employment support is transferred to an adult service agency during this year and the job serves as the student's first post high school employment.

DEVELOPMENT OF VOCATIONAL TRAINING SITES

If there is a transition coordinator, job developer, or work-study coordinator in the school, such a professional would play a major role in the activities that are described in the remainder of this section. However, if no such position exists in a school or program, another member of the special education staff will have to assume a leadership role in regard to these activities.

A school needs a pool of out-of-school job training opportunities that exceeds the number of students with severe disabilities being served. This pool of job training positions should sample the characteristics of several dimensions.

o Job training sites should represent the range of employment opportunities (e.g., food services, office services, health occupations) available in the local economy, preferably near students' homes. This provides students and families with more information about appropriate job choices.

- Training positions should sample at least two employment support options (enclaves, individual jobs, work crews). As students try various work options, teachers and parents gain valuable information regarding the type of supervision and support needed during post school employment.
- Training sites should also sample different types of non-work-related routines, job related social skills, and employment environments. Some sites may involve a lot of public interaction whereas other sites may not. Some training sites may be within walking distance of the school, while others may require the use of public transportation. Some sites may have very stable job tasks, while others have job routines which change periodically.

Some of the training sites should be willing to hire students once they have become competent workers, as the goal of vocational preparation is paid employment beginning shortly before or at the time the student leaves school.

There are generally five phases (Mcloughlin, Garner and Callahan, 1987) to securing vocational training sites:

- exploring the community's employment picture;
- making the first contact with employers to arrange for an initial meeting;
- holding an initial meeting to determine the employer's willingness to sponsor vocational training;
- conducting follow-up negotiations to gain a more in-depth understanding of the business and identify specific jobs for training; and
- conducting a job analysis.

EXPLORING THE COMMUNITY'S EMPLOYMENT PICTURE

Obtain an overview of the local employment picture by visiting each student's neighborhood and noting the types of businesses present there. Future employment opportunities can also be identified by the types of jobs that local vocational rehabilitation agencies and supported employment programs are obtaining for their clients. Get a list of voluntary service agencies in your community that operate vocational rehabilitation programs. Such a list may be obtained from the state vocational rehabilitation and/or mental retardation agencies. Contact these local service providers to find what jobs clients are obtaining.

Construct a list of businesses for vocational training that are near the school, that represent the types of businesses in the students' neighborhoods and/or that represent the types of businesses in which vocational rehabilitation programs (particularly supported work programs) are placing workers. When targeting businesses to call, use any personal contacts that you, fellow staff or parents have with employers. These existing linkages can make it much easier to establish vocational training sites.

Find out about the businesses, without spending too much time, by talking to employees you may know, consulting business, industrial and trade directories, reading company literature or calling the business. Find out about the business' size, type of work, relationship with unions, key personnel to contact, jargon and any seasonal trends in available work.

CONTACTING EMPLOYERS

Typically, making "cold calls" to employers is not a good idea. First send a letter of introduction briefly describing your school, the vocational training program, and the fact that you will be calling for an appointment. A letter of introduction is not always necessary when the employer is a friend or has already been contacted for other purposes.

Before making initial contact, allow time for the letter of introduction to reach the employer. Don't try to "sell" your vocational training program at this time. The only reason for the initial contact is to get an appointment for a face-to-face meeting. Before contacting the employer estimate the time required for the meeting. Request that amount of time when you contact the employer and promise to stick to it. If you were referred by someone, start the conversation with the name of the person who referred you. Be prepared to answer any questions, and have a calendar ready to help set the meeting's date and time. After a meeting date has been arranged, send a letter of confirmation.

Drop-in visits for a first contact are acceptable if you know the employer or if the business is so publicly visible that person-to-person contact with an employer is readily available. The purpose of a drop-in visit is the same as a telephone call, namely to get an appointment. However, drop-in visits have the advantage of being "face-to-face," which makes it more difficult for the employer to say no.

It may be helpful to develop a script for the first contact and practice it before calling. Include a list of potential employer questions and objections, e.g., liability questions, and role play giving effective responses. For example, an initial response to a question about liability might be that the school system is responsible for its students when they are in planned instructional activities in the community, just as when they are within the school building. Moreover, authorized school personnel will accompany and supervise the student at all times.

CONDUCTING THE INITIAL MEETING

An acceptable outcome of this initial meeting is for negotiations to continue. You may obtain an employer's definitive support for vocational training to take place at his or her business; but, if not, don't press for a yes or no answer at this time.

Be sure that the meeting takes under 30 minutes, and is held under conditions that allow for effective communication. Dress appropriately for the business and use the business' jargon if you can do so correctly. Arrive a little early, if possible, to conduct further research by reading any of the business' literature and obtaining the names of secretaries, receptionists, etc.

Begin the meeting with informal conversation and then explain who you are and how you were referred. Next, describe who you represent, what you want and what is expected of the employer. Allow the employer to ask questions and ask any questions that you might have.

At this point you should have a fairly good idea of how interested the employer is in providing vocational training opportunities. If the employer seems positive ask for a training position(s). If the answer is affirmative establish lines of communication by identifying a continuing contact person and finding out when this person can be reached. Request a tour of the business for as soon as possible and ask if there are any other businesses the employer could refer you to. If the employer seems hesitant or unsure of the business participating as a vocational training site, ask for another meeting. Set the date and time of the next meeting, which will usually take longer than the initial meeting, and find out what additional information the employer wants. Identify any additional school staff you would like to bring. If possible, arrange for a tour of the business as part of the meeting. Send a thank you note to the employer and include a confirmation regarding the next meeting.

FOLLOW-UP NEGOTIATIONS TO SECURE VOCATIONAL TRAINING OPPORTUNITIES

During follow-up negotiations provide the employer with in-depth information on vocational preparation and supported employment, who the potential trainees are, and how the job analysis and training will occur. Emphasize your willingness to meet the employer's needs and the necessity for supervisors and co-workers to have regular performance and production expectations of trainees. Also indicate that some flexibility may be necessary in job routines and scheduling during the training period.

The most important outcome of touring the business is to identify potential jobs for training. While on tour ask questions and observe to gain an in depth understanding of the business. Find out about:

- employer's expectations regarding quality and rate of production
- names of supervisors and co-workers
- the chain of command and how problems are handled
- security and safety requirements
- relations among co-workers and between employees and management
- who is friendly and who are the unofficial leaders
- how strict or loose the environment is in terms of procedures and protocol

When considering specific jobs for training ask yourself the following questions:

- To what degree do the jobs match your student's interests and abilities?

- How marketable are the job's skills at other employment sites in the community?
- Can expectations regarding production and quality be defined?
- Do the job tasks have defined cycles that are repeated regularly?
- How well organized and defined are work areas?
- How easy is it to adapt and modify equipment, work areas and/or routines?
- How willing and able are co-workers and supervisors to cooperate with training?
- Can the trainer learn the job in a reasonable amount of time?

At some point in the negotiation phase the question "When can we start?" must be asked. Once approval for vocational training has been secured, establish the dates for the job analysis to be conducted and training to begin. Be sure to leave approximately a week or two between job analysis and the start of training to allow enough time for the job trainer to collect all necessary information and for student(s) to have some preparation time.

The next step in the job development phase is to finalize an understanding with the employer by developing an employment agreement which is a listing of the employer's and the school's mutual expectations regarding issues like: number of students to be trained, what jobs will be available for training, how supervision will be handled, what days and hours training will occur, how liability issues will be handled and which school staff will be training students.

CONDUCTING A JOB ANALYSIS

It is essential to conduct a job analysis at the training site before training begins. There are several advantages growing out of such a process (Mcloughlin, Garner, and Callahan, 1987).

- A trainer can begin to gain the confidence of employees and supervisors. This helps lend credibility and status to the student with severe disabilities.
- By performing the job tasks to be trained, a trainer can gain an "insiders" view of those aspects of a job that are difficult to observe, like rhythm, speed requirements, points of fatigue, and difficulty level of judgments.
- The culture of the company can be observed to determine factors like what behaviors are acceptable or unacceptable, level of congeniality among employees and between management and employees, lines of communication, and which employees and supervisors might be allies.
- The trainer can construct a plan for facilitating the most effective approach to training a new student.

There are essentially four domains (Mclouglin, Garner and Callahan, 1987) within which a job analysis needs to be performed:

- o repetitive job-specific tasks
- o episodic job-specific tasks
- o job-related tasks
- o cultural expectations of the work place

REPETITIVE JOB-SPECIFIC TASKS are the core routines of a job that are frequently and repeatedly performed. For a pantry helper in a cafeteria, repetitive job-specific tasks might include washing and slicing fresh vegetables for the salad bar or preparing cold food platters for lunch. These tasks are the easiest to train because they have natural cycles that repeat themselves. This creates a massed-trial training situation where cuing and fading techniques can be effectively utilized.

EPISODIC JOB-SPECIFIC TASKS are routines that need to be completed on a less frequent basis. These tasks are more difficult to train because of the time lapse between training opportunities. Some examples of episodic job-specific tasks for the pantry helper in a cafeteria could be stocking the salad bar, taking out the garbage or sharpening knives.

JOB RELATED TASKS involve activities that are not usually considered inherently part of a job. Nevertheless, the performance of these activities is very important if people with severe disabilities are to keep their jobs. These tasks include activities like riding a bus to work, getting to work on time, purchasing lunch in the employees cafeteria, returning from break on time, and changing into work clothes in employees' locker room.

The best means of thinking about and analyzing the first three domains (repetitive and episodic job-specific tasks and job-related tasks) is to observe how the task is typically performed by employees and develop a task analysis breaking down the activity into its component parts. The level of detail for the task analysis (i.e., number of individual steps) will depend on the task's complexity and the student's degree of impairment.

Trainers often mistakenly assume that all employers' expectations regarding employee behavior are the same. Work sites differ greatly in their degree of tolerance and flexibility of various types of behavior. Not realizing this often leads trainers to apply standards of behavior that are too rigid. During job analysis it is important to observe and ask questions of supervisors and employees to determine what the expectations and demands are at a work site and how an employer might react to an encroachment of customary behavior. When a trainee's behavior violates a work place expectation, the trainer must explore whether additional skills need to be taught, or whether further environmental accommodations need to be made.

The job analysis process usually includes several relatively distinct activities. First observe how employees perform the various tasks, and then have an employee or supervisor teach you the tasks while you take note of the task's complexity, procedures, degree of supervision and natural cues. Be sure to perform those tasks that you have not engaged in before. Determine which part(s) of the job require a complete task analysis and write the task analyses for those job activities that you think will require the most training based on a thorough knowledge of the student's abilities and needs. Review with the employer and gain their approval for the tasks to be trained, the training methods to be used, and any modifications or adaptations. Get to know the employees and supervisors and remember their names so you can introduce the student. Establish a starting date for training to begin and let the student's family know when training will start.

VOCATIONAL ASSESSMENT AND TRAINING FOR THE INDIVIDUAL STUDENT

Decision making regarding vocational objectives for students with severe disabilities is a complex process that cannot be based on commercial vocational evaluation instruments or typical vocational curriculum sequences. Student preferences, family preferences, and information from vocational training experiences need to be used to develop vocational objectives for the IEP/ITP.

For younger students there is much flexibility when choosing work training objectives. These choices become more constricted and focused as students reach 18 or 19 when job decisions need to be made. To make decisions wisely regarding vocational objectives, teachers need a way of tracking and reviewing individual student training experiences. Certain information on a student's vocational training experiences should be kept:

- basic information regarding the work experience at a particular site, such as number of hours worked per day/per week, dates worked;
- a description of the type of work performed at a site;
- the type of training/support option used at the site such as individual placement, work station, mobile crew;

- job skills and non-work-related skills taught at a site;
- mode of transportation used to get to and from a work site;
- type of supervision used such as co-worker, fellow trainee, school staff, adult service agency staff;
- nature and degree of student contact with nondisabled co-workers and other nondisabled persons at the job site;
- specific data on work and non-work-related skills taught at the site.

The above information can be used to create resumes for students when they are ready to obtain paid employment. Such information can also be used instead of a vocational evaluation report in choosing later work experiences. A videotape of the student engaged in work at community sites is an excellent supplement to written information in preparing a resume packet.

In conjunction with work history information teachers need to review information on the available work training sites to determine which site or sites can best meet the student's vocational training needs. The person responsible for developing jobs should maintain a placement log on each available training site containing:

- basic information on the site such as contact person, address, telephone number, travel requirements, job clusters and non-work-related skills available for training;

- list of job specific tasks and daily routines;
- type of supervision available, if any, from nondisabled employees;
- constraints associated with the site such as accessibility, need to supply own uniforms or equipment and business hours;
- information on previous placement history at the site such as date(s) site was used, jobs performed by students, and who supervised training.

If the placement log doesn't include a training site that will expand the vocational repertoire of a particular student, then a new site needs to be developed, or a current site must be expanded.

EXAMPLE: Robert (See Profile #3, p.13.)

Since Robert entered high school he has had four vocational training experiences. After reviewing his community work history Robert's teacher sees that he has worked in food and office services as well as the hotel and health industries. He has operated a dishwasher and copy machine, cleaned guest rooms, and stocked supply shelves.

In terms of training and support options, he has been in two individual and two enclave placements. Initial training was always provided by the teacher and/or teacher assistant. As Robert's vocational training progressed he required less frequent points of contact and supervision to maintain an acceptable level of production/performance. When working at the hotel enclave Robert shared his job with another student and helped his fellow student perform his job tasks.

Robert has been learning a number of non-work-related skills such as riding the public bus, crossing streets, eating lunch at fast food restaurants, using vending machines during breaks, operating elevators and punching a time clock. Even though Robert is a shy person, he gets along well with his nondisabled co-workers. After some initial groundwork by school staff, Robert's co-workers have typically encouraged him to join them during breaks and lunch. Because Robert is 18 and only has three more years in school, his range of choice for vocational placement needs to be narrowed to begin preparation for permanent paid employment. Robert enjoyed the food service industry and was very proficient at operating the commercial dishwasher. He has steadily required fewer periodic points of support to maintain performance. Consequently, future vocational training should give Robert the opportunity to operate various types of commercial dishwashers at sites that are representative of dishwashing jobs in the community.

It's unclear whether Robert should have individual job training placements, as he has progressively required less support, or if he should continue with enclave placements because he enjoys job sharing and helping his fellow students. An individual placement would be desirable because Robert would have the opportunity to develop the independence required for competitive employment after leaving school. Individual job placements are also more socially integrated than are enclaves. However, there is some concern that Robert may not be able to handle an individual placement at this time because he has begun to show some challenging behaviors over the last few months. Robert's teacher feels that an individual placement should be attempted because Robert seems to have fewer instances of challenging behavior when he is in a more integrated setting.

Robert's family is in agreement with this job choice. They may even be of assistance in developing future training sites in the food service industry for Robert and his classmates because Robert's father has been employed as a short order chef at many local diners and restaurants, before retiring this year, and Robert's brother-in-law works

> as a salesperson for a commercial kitchen supply business.
>
> Next, the teacher with the help of the transition coordinator reviews the placement log to identify an appropriate training site. All available training sites for dishwasher operation are enclaves or have been used by Robert. However, one of the food service enclave sites is in the employee's cafeteria at a large department store where there is also a lunch restaurant for customers. The transition coordinator will investigate the possibility of placing Robert at the restaurant for three hours in the afternoon five days a week. This will be an integrated, individual placement because Robert will have no contact with the students in the employee's cafeteria enclave; yet, this will be a convenient placement for school staff because the teacher and teacher assistants at the enclave can provide Robert with the intensity of training and supervision that he currently needs given his potential for engaging in challenging behaviors.

Students with severe disabilities often cannot perform tasks at a work site like other employees because of deficits in social, academic, motor, or language skills. Teachers need to develop adaptations and supports required by students with severe disabilities so they can perform job tasks and routines. These supports/adaptations could include:

- adapting job descriptions, routines or procedures so a student who can not perform all tasks can perform some of them;

  EXAMPLE: Ed and Robert (See Profiles #1 & #3, pp. 12 & 13.)

  Ed and Robert have been placed at a local hotel for vocational training in the housekeeping department. They are being trained to service guest rooms. This job includes several tasks (vacuuming bedroom carpet, sweeping bathroom floor, emptying trash cans, replacing towels and bath mat, cleaning tub, sink and toilet, changing bed linens/making bed, and dusting furniture.) Ed and Robert are sharing this job to capitalize on their complementary strengths and weaknesses. Even though Ed has a significant visual impairment, there are certain tasks he can do quite well, such as replacing the towels and bath mat, emptying trash baskets, removing dirty linen, and transporting clean and dirty linens. Because Ed has limited vision he cannot be totally responsible for cleaning tasks that require close visual inspection. However, he can make a "first pass" at cleaning certain areas and Robert, who has tunnel vision, can inspect them and make any necessary corrections. Robert could make the beds(s), vacuum, sweep the bathroom floor and check Ed's dusting and cleaning of sink, tub and toilet.

EXAMPLE: Ed (See Profile #1, pg.12)

Ed has been scheduled to work at his family's restaurant two afternoons a week during slow business hours. Both his parents and his teacher want to explore how Ed can use his skills in this setting, and how his echolalia can be incorporated into a meaningful activity. It was decided that Ed would share "counter duties" with the regular worker assigned to this station. This job required Ed to wipe and dry the counter top area after his co-worker cleared away the dirty dishes. In addition, Ed was directed to convey the customer's order in a loud voice to the cook after Ed's co-worker had asked the customer: "What would you like?".

o providing an electrical, mechanical and/or structural device to facilitate job task performance;

EXAMPLE: Joanna (See Profile #5, pp. 15.)

Joanna is being trained to operate a camera at a micrographics business where paper documents are transferred to microfilm for easier storage. This is a desirable vocational training experience for Joanna because there is a large micrographic business near her home. Upon graduation or leaving school a supported job could be developed in this company if Joanna had the skills.

At her current training site Joanna is responsible for taking one document at a time from a stack of pre-arranged documents, orienting the document properly for filming, pressing a button to activate the camera and placing the filmed document in a receptacle.

Because of Joanna's visual impairment she can't orient the documents correctly for filming without some type of adaptation. Her teacher, with the help of the occupational therapist, constructed a tray with four raised sides that are adjustable. Before filming a series of documents, the sides of the tray are adjusted to match the dimensions of the documents. Once adjusted, Joanna simply places the document on the tray within the confines of the raised sides, and films the document.

Illustration: A Teacher Illustrates Vocational Experiences As Part of Community-Based Instruction

Tom[*] is a teacher in a program for students with severe multiple disabilities, some of whom have sensory impairments. Tom introduced the idea of a community based curriculum to the teachers and assistant teachers with whom he works. They agreed to use lunch times for meetings to explore how this idea could be implemented with their students during the next school year. Once this agreement had been reached, and with the principal's approval, Tom assumed responsibility for coordinating all aspects of community based instruction. He began exploring issues involving staffing, scheduling, and liability.

During the summer, Tom began to conduct an informal ecological survey of the area surrounding the school. He focused on the identification of public and private enterprises that might provide vocational experiences to students aged 14 and over, as well as opportunities for social integration.

One of the businesses Tom identified in his survey was a Baskin Robbins ice cream store close by the school. Tom began buying ice cream in the store and talking to the owner about his students. Tom believed that his students could be helpful by cleaning the glass display cases and counter. After a substantial investment of time, arrangements were finalized for one student to work twice a week cleaning display cases in the store. The schedule involved approximately a half hour in the morning before the store opened to customers.

Another possible vocational site that Tom identified was the mailroom of a college located two blocks from the school. Tom talked about his students to the workers in the mailroom. They had no objection to having one or two students in the mailroom a couple of mornings a week, but they referred him to the building supervisor. Tom next met with the building supervisor who indicated that a college administrator would have to serve as a sponsor. He suggested one possible administrator who had been a faculty member in the Department of Special Education. This administrator agreed to provide the sponsorship needed. The fact that student teachers from the college's Special

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[*] Tom is a teacher in the New York City public school system.

Education Department worked in Tom's school and would be participating in the community based instructional program cemented the college's cooperation.

The students who came to the mailroom twice a week used a machine to stamp letters and placed flyers in mailboxes. In an effort to best meet the needs of one student who needed a wheelchair, Tom arranged for a physical therapist to accompany him and the student teacher on their first visit to the mailroom. With the physical therapist's input, the student was positioned in a way that best facilitated his implementation of the steps involved in using the stamping machine. Since this student was blind, a request was made for permission to attach a small piece of velcro to the button used to start up the stamping machine. Mailroom staff were comfortable allowing this adaptation to be made.

Tom was able to establish several other vocational sites, including the teacher's union headquarters, a police department museum, a shoe store that is part of a national chain, and a conference center. Transportation was required to reach some of these sites, and the van that brings students to and from school was reserved for this purpose in the same way as for other school trips. The establishment of some of these work experiences involved using the personal networks of teachers and parents, writing numerous letters, making numerous telephone calls, and even lending some store owners a videotape ("Regular Lives"*) that presents a rationale for the community integration of people with severe disabilities.

Implementing this program also involved gaining the support of parents. A videotape of some students engaged in work experiences in the community convinced most parents that such experiences were appropriate and desirable.

Tom and his colleagues are now engaged in identifying additional sites with different types of possible work tasks, lengthening the periods of time that students can continue at work tasks, lessening students' dependence upon assistance from staff in performing work, and increasing interaction between students and workers at job sites. Additionally, Tom and his colleagues have begun to write IEPs for each student that reflect a recognition of these community based instructional activities and vocational experiences as integral parts of the students' education program.

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* "Regular Lives" (1988) is available from: Association for Persons with Severe Handicaps, 7010 Roosevelt Way N.E., Seattle, WA 98115.

The next major task that has been identified by Tom and his colleagues is the establishment of relationships with agencies in the community that serve, or could serve, adults with disabilities. With communication channels open, they hope to be able to effect smoother transitions and more appropriate options for students aging out of their program.

SUMMARY

Because of supported employment, paid work in typical, integrated settings will be a reality for many people with severe disabilities after leaving high school. To prepare students for these employment opportunities, high school special education programs need to rotate students through a number of non-school based vocational exploration and training experiences that end with "permanent" paid vocational placements for students in integrated jobs.

Special education's role and responsibility in vocational preparation is unique because there are more time and resources during high school for vocational training than after high school. In addition, high school special education programs have the opportunity to create a community awareness of the dignity that employment brings to the lives of persons with disabilities, and to facilitate the inclusion of individuals of all abilities in work.

FOR MORE INFORMATION

Bellamy, G.T., Rhodes, L.E., Mank, D.M., & Albin, J.A. (1988). Supported employment: A community implementation guide. Baltimore, MD: Paul H. Brookes.

McLoughlin, C.S., Garner, J.B., & Callahan, M. (1987). Getting employed, staying employed: Job development and training for persons with severe handicaps. Baltimore, MD: Paul H. Brookes.

SECTION IV: STRATEGIES IN SUPPORT OF COMMUNITY-BASED INSTRUCTION AND VOCATIONAL EXPERIENCES

INTRODUCTION

An instructor (teacher, teacher assistant, related service provider) needs many skills in working with students who have visual or dual sensory impairments and cognitive disabilities. These skills are basic to working effectively with students in any setting, whether school or community, and in any activity, whether vocational, leisure or daily living. This section of the handbook addresses some of these basic skills and strategies.

USING RESIDUAL VISION IN FUNCTIONAL ACTIVITIES

A large percentage of students who have visual or dual sensory impairments and cognitive disabilities have some degree of usable vision. The amount of usable vision that a student has is referred to as residual vision. Instructional staff need to know under what conditions the student can utilize his vision to facilitate his participation in activities. Motivation, expectation, needs, experiences, and physical environment all impact on an individual's use of residual vision.

DETERMINING WHAT VISION SKILLS A STUDENT HAS

By the time a student reaches high school age, there should be a substantial amount of information about the student's vision in her record. This is the first source of information for the teacher. However, additional information of a functional nature may be valuable. Below are some questions that a teacher might either ask the vision specialist available to the program, or collect information about herself.

1. RESPONSE TO LIGHT: Does the student respond to light e.g., squint to keep out bright light, gaze at sources of light?

2. LOCATING OBJECTS THROUGH VISION: Does the student locate objects using vision rather than relying completely on tactile and/or auditory information?

3. SCANNING: Does the student scan an array of objects in searching for particular objects (search from one object to another)?

4. POSITIONING OF MATERIALS: Does the student move his body or head (or move an object or person) to a particular position or distance in order to best view the object or person?

5. SIZE, COLOR, LIGHTING: Does the student respond only or better to objects with contrasting colors, to small objects, or large objects, to objects directly under a light source?

There are many activities, appropriate for adolescents, whose implementation is facilitated by the use of residual vision. The information gathered from exploration of the above questions can be useful in planning how to assist the student in using her residual vision in carrying out such activities. For example, the above information may be useful in deciding whether visual strategies will be adequate to enable a student to locate clothes in a closet, or whether tactile cues will be needed. In a parallel vein, a student who appears to see objects or people best when they are directly centered in front of her, will relate more effectively in the community if she is taught to position herself in this way relative to other people.

ASSISTING STUDENTS IN USING VISION FOR FUNCTIONAL ACTIVITIES

Once it has been determined that a student has some functional vision, and what the student can do with this residual vision, activities can be analyzed for whether and how this student can use vision to facilitate the accomplishment of particular activities. The first step in this process would be to identify the visual demands of each activity. The next step would be to compare the visual demands of a task to the student's visual functioning. Where discrepancies exist, the teacher designs instructional strategies and/or adaptations that will enable the student to use his vision to complete the activity.

> EXAMPLE: Ed (See Profile #1, pp. 12)
>
> Ed, who uses his vision to locate objects, has been asked to pour juice into cups at breakfast. To complete this he must focus his visual attention first on where the liquid is going when it is poured, then on the level of

> the liquid relative to the rim of the cup.
>
> The first step in assessing the best way to help Ed acquire this skill would be to identify the points of difficulty. See the chart that follows for a model of how to identify possible hurdles to completing an activity; assessment questions about student's functioning; and instructional strategies for assisting the student to implement the activity.

The above example was based on Ed's actual abilities. However, if Ed had poor hand control, the concept of partial participation would have come into play, with the teacher, teacher assistant, or another student offering physical assistance with the motor demands of the task of pouring the juice.

USING RESIDUAL VISION: POURING JUICE

Hurdles to Completing the Activity	Assessment Questions	Instructional Strategies
Ed is missing the cup when he pours the juice	Is the cup large enough and sufficiently different in color from its surroundings to enable Ed to see it?	o Use a larger cup. o Increase the contrast between the color and its surroundings.
	Is the lighting in the room adequate to enable Ed to carry out the activity?	o Improve the lighting in the area where Ed is pouring the juice by adding a small lamp. o Implement the activity in a better lit area of the room.

Hurdles to Completing the Activity	Assessment Questions	Instructional Strategies
Ed is pouring juice into the cup but not stopping until the juice overflows.	Is Ed focusing his visual attention on the liquid and the circumference of the cup as he begins to pour (the critical moment)?	o Use verbal and/or physical prompts to direct Ed's attention to the area just below the rim of the cup at the critical moment.
	Is Ed focusing his visual attention appropriately but still not stopping in time?	o Use an adapted cup with a brightly colored line on the inside at the appropriate stop level. o Use an adapted cup that sends out an auditory cue when liquid

Hurdles to Completing the Activity	Assessment Questions	Instructional Strategies
		approaches the rim (available from the American Foundation for the Blind)
		o Teach Ed to place his index finger into the cup, with the first joint resting on rim of the cup, and to stop pouring when the liquid reaches the tip of the finger.*

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*Note - This particular technique is appropriate for teaching a student to pour liquids for himself. It is not an appropriate technique if the student is being taught to pour drinks for others, unless the student wears a latex glove.

STEPS FOR ASSISTING STUDENTS IN MEETING THE VISUAL DEMANDS OF ACTIVITIES

1. Identify the visual demands of an activity.
2. Compare the visual demands of the activity with the student's visual functioning to identify possible discrepancies.
3. Design instructional strategies or adaptations that enable the student to use vision in completing the activity.

FOR MORE INFORMATION

American Foundation for the Blind, 15 West 16th Street, NY., NY 10011 (212) 620-2000. (Ask for free catalog: Products for people with vision problems.)

Goetz, L., & Gee, K. (1987). Functional vision programming: A model for teaching visual behaviors in natural contexts. In L. Goetz, D. Guess, & K. Stremel-Campbell (Eds.), Innovative program design for individuals with dual sensory impairments (pp. 77-98). Baltimore, MD: Paul H. Brookes.

FUNCTIONAL ORIENTATION AND MOBILITY PROGRAMMING

The ability to get from one place to another is central to independent functioning for all individuals. This ability needs to be taught directly to students with severe visual impairments. Techniques of orientation and mobility provide information to individuals with visual impairments that allows them to move independently and safely both within and between indoor environments and outdoor environments. Instruction in orientation and mobility is the joint responsibility of teachers and orientation and mobility specialists. While orientation and mobility specialists may work directly with students, this is usually only for short periods of time. Instructional staff have the opportunity to reinforce this skill development throughout each school day. Instruction should be given whenever travel is necessary in order to participate in activities, e.g., when moving from the classroom to the cafeteria, from the school building to the bus, from the coat closet to the table. Some of the skills embedded in independent movement within a school building or home are tactile discrimination, sound localization, and the utilization of cues and landmarks.

Orientation and mobility training takes on added significance during adolescence as students are prepared for greater age-appropriate independence in the community as well as for supported work. The ability to get to and from a work site without complete dependence upon specialized transportation greatly strengthens the possibility that a student will be able to participate in a supported work program. Unlike most day treatment programs and sheltered workshops, supported work programs rarely provide transportation.

SOME BASIC ORIENTATION AND MOBILITY STRATEGIES

SIGHTED GUIDE. The student grasps the guide's arm just above the elbow. This position allows the guide full use of his arm, and allows the student to follow the guide's movements, e.g., stopping, turning. A short student may grasp the guide's wrist. The guide should remain alongside but approximately a half step ahead of the student. As the guide approaches an area first, the student remains protected. Sighted guide should be used in unfamiliar, crowded, or dangerous areas, or when speed is essential.

TRAILING. Trailing is used to teach a student to move independently from one place to another. It is a technique whereby a student maintains physical contact with a wall or other stationary objects at all times. The back of the student's hand lightly touches the wall. The student should be no more than 10 inches from the wall, with her arm extended downward and forward at approximately a 45 degree angle.

ASCENDING AND DESCENDING STAIRWAYS. When a sighted guide is used, the guide should remain one step ahead of the student and stop when he comes to a landing to allow the student to catch up. When a student is trailing, she should be taught to use the right hand rail and move with the flow of traffic. The student is taught to ascend stairs before being taught to descend because the latter process can be quite frightening for students with severe visual impairments.

CROSSING AN OPEN SPACE. This is a difficult task for students who have both visual and cognitive impairments. Whenever possible find a way to trail around the perimeter in that particular area. Consult with the orientation and mobility specialist for specific strategies.

USE OF THE LONG CANE. The long cane serves as a bumper and probe. It protects the individual from bumping into low objects. It provides tactile and auditory feedback. It also serves as a means of identification so that sighted persons will walk around the individual using the cane. Many students who have both visual and cognitive impairments cannot use a cane independently. These students may be able to use a long cane in the presence of a sighted individual.

ASSESS BASIC ORIENTATION AND MOBILITY SKILLS OF INDIVIDUAL STUDENTS

Observe the individual student's strategies for moving about the classroom. Does the student hold his hand out in front as a means of exploring his whereabouts and protecting himself when moving? Does the student move toward sound, or appear to pause and re-orient himself toward the sound source? Does the student appear to recognize pieces of furniture or architectural structures as cues to identifying his location in the school environment? The orientation and mobility specialist can provide additional information about the student's movement skills, and can help the other instructional staff better understand what she has observed.

SELECT APPROPRIATE ENVIRONMENTS FOR INSTRUCTION

Select routes for travel instruction, both within and outside the school, that meet the following criteria:

1. The routes are used on a frequent basis.
2. The routes lead to desirable activities for the student when the destination is reached.
3. Begin instruction with simple routes. Simple routes are short, have few turns, and don't involve crossing open spaces.
4. Provide instruction in multiple routes that require the same orientation and mobility strategies.

Travel to and from community work experience sites should be a significant part of the instructional experiences of students. The use of public transportation should be included not only for those students whose O & M skills are such that they are likely to be able to master independent travel, but also for those students whose families or other escorts may rely on public transportation. In regard to this latter group, being able to travel on a bus or subway with a family member or other escorts will increase the range of community activities in which they can participate.

When a student is nearing the completion of her school experiences and has been accepted for a supported work program that does not provide specialized transportation, the teacher, O & M specialist, and parent(s) must meet to plan specific instructional experiences in preparation for the travel requirements of the situation. This may include teaching the student to walk to the work site, use a local bus, participate in a car pool, and/or use a taxicab service. Intensive orientation and mobility training for this purpose by staff and parents working cooperatively may need to be a major focus during the last year of a student's school experience.

PLAN INSTRUCTIONAL EXPERIENCES IN CONJUNCTION WITH AN O & M SPECIALIST

Work with an O & M specialist to decide how best to teach each student to negotiate important routes.

EXAMPLE: Sergio and John (See Profiles #2 & #4, pp. 13 & 14.)
It's 8:30. The bus arrives at the school building. Both John and Sergio are on the bus. Several staff members are waiting to meet it. The orientation and mobility (O & M) instructor is one of them. She has an appointment to meet John and Sergio for orientation and mobility instruction. John is getting practice in use of the long cane outdoors while Sergio is practicing use of a sighted guide. She has selected the short path from the bus to the school entrance because it is familiar, safe, clearly defined, and used frequently. When John leaves the bus he is carrying a collapsible cane. The instructor greets John and waits for him to open his cane. When he hasn't done this after a reasonable time, she reminds him to do so. (See section on "Prompting As An Instructional Strategy", pp. 221.)

When Sergio leaves the bus the O & M instructor greets him and tells him that the two of them will walk with

John into the school building. The instructor tells Sergio to take her arm, while at the same time she extends her elbow toward him. Sergio locates her elbow but moves his hand to grasp her hand. The O & M instructor redirects him to hold on to her arm just above the elbow, as this is the appropriate technique for a 17 year old.

When they reach the steps at the front of the school building, the O & M instructor waits to see if John will locate the bannister and switch the cane to his other hand. She slows down to indicate to Sergio that they are about to reach the steps. She says: "OK, remember what's here." Sergio releases the instructor's arm and the instructor moves away so that Sergio can grasp the bannister.

When the two students reach the top of the steps they move to an indoor wall and trail this wall to the classroom. John now holds his cane diagonally in front of him. The O & M instructor walks to the classroom with them. Before entering the classroom, John collapses his cane since he does not need it in this familiar environment.

FOR MORE INFORMATION

Gee, K., Harrell, R., & Rosenberg, R. (1987) Teaching orientation and mobility skills within and across natural opportunities for travel: A model designed for learners with multiple severe disabilities. In L. Goetz, D. Guess, & K. Stremel-Campbell (Eds.), Innovative program design for individuals with dual sensory impairments (pp. 127- 158). Baltimore, MD: Paul H. Brookes.

Hill, E. (1976). Orientation and mobility techniques: A guide for the practitioner. New York: American Foundation for the Blind. (Available from AFB, 15 West 16th Street, New York, NY 10011 cat. no. PMP001)

STRATEGIES FOR IMPROVING BEHAVIOR THROUGH AWARENESS OF AUDITORY FUNCTIONING*

A large percentage of students who have dual sensory impairments and cognitive disabilities have some degree of aided residual audition (hearing with the use of a hearing aid). Even many students with profound hearing losses can benefit from amplification. The amplification from a hearing aid for a profound loss is so powerful that when sound passes through the aid it becomes vibro-tactile in nature and it causes the ear canal to vibrate. This vibration signals the student that something is happening in her environment. Teachers need to know under what conditions the student can utilize audition in order to facilitate participation in day-to-day activities.

DETERMINING WHAT AUDITORY SKILLS A STUDENT HAS

By the time a student reaches high school age there should be a substantial amount of information about the student's hearing in her record. This is the first source of information for the teacher. The teacher, together with the speech and language therapist, should examine previous audiograms and conduct informal audiological assessments.

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* Written in collaboration with Veronica Barile, MA/CC - SLP, The Jewish Guild for the Blind.

While most teachers do not know how to read an audiogram, the speech and language therapist can work with them to interpret the student's audiogram(s), i.e., to identify the type and severity of the hearing loss. Together, these two members of the instructional staff can then work out the implications of this information for the student's day-to-day functioning.

Additional information of a functional nature may be gathered using more informal assessment techniques. Initially, the speech and language therapist and the teacher should assess the student together. There are three areas that should be looked at when evaluating a student's residual hearing: hearing aids, reaction to environmental sounds, reaction to speech.

1. HEARING AIDS

   The following questions will guide you in determining whether the student is benefiting from her hearing aid(s) at the present time.

   a. Is the student wearing her hearing aid(s)?
   b. Does the student wear her hearing aid(s) for the entire school day?
   c. Are there particular activities during which the student lowers the volume or shuts off her aid(s)?
   d. Does the student become agitated when presented with her aid(s), tug at her ears, remove the aid(s), or

shut the volume off? Is the underlying cause behavioral or medical?

e. Does (do) the aid(s) function properly?

f. Does (do) the ear mold(s) fit properly?

g. Are extra batteries available in school?

h. Does the student wear her hearing aid(s) at home?

Teachers may not know how to obtain the answers to all of these questions. For this reason, the speech and language therapist should be consulted, and together the two should seek the answers to these questions. In some instances a speech and language therapist may not be available to the teacher. In these cases a professional with a background in deaf education might provide valuable assistance. Additionally, the teacher may call the audiologist who performed the testing for information. Information of a functional nature may be gathered using more informal assessment techniques, as described below.

2. REACTION TO ENVIRONMENTAL SOUNDS

Students may react to sound(s) in the environment in a number of ways, e.g., orienting toward the source of the sound, a quieting or calming effect, heightened activity, a change in facial expression, increased or decreased vocal activity. Responses should occur within 3-4 seconds after the presentation of sound. Following are some important questions to try to answer about the student's reaction(s).

a. How does the student react to familiar sound(s) in the home, in the school, and in the community?

b. How does the student react to unfamiliar sound(s) in the home, in the school, and in the community?

c. How does the student react to high pitched sound(s) e.g., a whistle blowing, a siren wailing, a fire alarm ringing?

d. How does the student react to low pitched sound(s), e.g., a chair being dragged, a metal garbage pail being dropped or kicked, a jack hammer being operated?

e. How does the student react to high pitched and low pitched sounds as they vary in intensity (loudness)? Intensity can be controlled by varying the distance of the sound source from the ear, i.e., the closer you get to the sound source the louder it becomes.

f. How does the student react to sounds of varying duration, e.g., a car horn honked briefly, honked briefly but repeatedly, honked for a long time. Generally, the longer the duration of a sound, the more time there is for a reaction to occur. (On the other hand, the longer the duration of the sound, the more chance for a behavior to occur that is unrelated to the sound.)

3. REACTION TO SPEECH

Students may react to being talked to in much the same ways that they react to environmental sound(s). Generally, recognition of speech would also be apparent when the student carries out a verbal request or attempts verbal imitation. Following are some important questions to try to answer about the student's reaction(s).

a. How does the student react to the intonation (tone of voice) and intensity (loudness) associated with such words as "no", "stop", "wait", and such phrases as "good work", "good for you", "do you need help?"
b. How does the student react to his name being called, e.g. stops activity, orients towards voice, looks directly at individual, smiles?
c. How does the student react when approached and greeted by an individual, e.g., "Hi John; it's Veronica."? Does the student smile, approximate a verbal imitation of the greeting, etc.?
d. How does the student react to a familiar request when presented in simultaneous communication (speech and sign; speech and object cues)? Does the student verbally approximate the request?

For most students with dual sensory impairments and cognitive disabilities, audition alone will not be the primary means of gathering information. However, using an approach that combines the use of residual vision and tactile exploration together with residual audition, may enhance the student's participation in some activities. The information gathered through the exploration of the above questions can be useful in planning how to assist the student in using his residual audition to enhance his functioning in some activities.

ASSISTING STUDENTS IN USING RESIDUAL AUDITION FOR FUNCTIONAL ACTIVITIES*

EXAMPLE: Robert (See Profile #3, pp. 13.)
Robert's parents and teachers have observed that Robert becomes increasingly agitated when walking in the community. He smacks his face and ears and tries to run.

Recent ophthalmological reports demonstrate that Robert's visual fields are narrowing. Robert's teachers feel that there may be a relationship between Robert's narrowing visual fields and the escalation of his agitated behavior when walking outside.

Robert's teacher and the speech and language therapist evaluate Robert according to the assessment questions previously presented. Additionally, in light of Robert's deteriorating vision, his teacher and the vision specialist conduct an informal vision evaluation (See section on "Using Residual Vision in Functional Activities", pp. 106-113.) These assessments revealed the following information: Robert wears binaural post-auricular hearing aids (two behind the ear aids). Robert turns the volume of his aids down on the school bus due to the amplification of background noise, e.g., noise from other students and traffic noises. When he arrives at his classroom he independently increases the volume. Robert wears his hearing aids at home, in the community, and at school.

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* Written in collaboration with Veronica Barile, The Jewish Guild for the Blind, NY, NY.

Robert's self-abusive behavior was almost always associated with sudden, low-pitched, environmental noises, e.g., a jack-hammer being used, a motor cycle or a diesel truck passing by.

After the evaluations were completed, Robert's parents, teacher, speech therapist and vision specialist met. The team agreed that due to Robert's deteriorating vision he is unable to efficiently scan his environment in order to locate the source of sound. Additionally, as Robert can no longer rely on his vision to the extent that he used to, he has become more reliant on sound(s) in his environment as a strategy for obtaining information about his surroundings. The results of the evaluations suggested that Robert needs new strategies to help him gather information about what is happening in his environment. The recommendations were as follows:

o The vision specialist will work with Robert's teacher to develop a program to train Robert's visual scanning and focusing skills in outdoor environments.

o Robert's parents were asked to contact Robert's opthamologist regarding the appropriateness of tinted lenses that would cut down on the glare outside, allowing Robert to make better use of his residual vision.

o The speech and language therapist and the teacher will develop strategies to enhance Robert's ability to identify the sounds in the environment that are troublesome to him. (Robert's ability to use his residual hearing for gathering information from the environment becomes increasingly important as his vision deteriorates.) They will also focus on the further development of Robert's vocabulary (signs and picture cues) in relation to those environmental objects that produce the sound(s) that agitate Robert. This will be done both through classroom activities and in natural, community settings.

Robert will work with his teacher on pairing signs with picture cues of objects that produce the sounds that have proven troublesome to Robert in the community. The pictures will show the objects in the environments in which they are likely to occur, e.g., a jackhammer at a construction site. The instructional staff has gone into the community and taped the sounds that seem to bother Robert. Robert listens to environmental sounds on a tape recorder while pairing them with picture cues and sign names. (See technique of desensitization in section on "An Approach to Challenging Behavior", pp. 157-175.)

When outside, the teacher assists Robert in scanning his environment in order to locate objects that generate the troublesome sounds. The goal is for Robert to focus his vision on the object and identify it before or at the same time that he hears it. When this object is located, Robert is given the picture cue and sign name for it.

FOR MORE INFORMATION

Erber, N. (1982). Auditory training. Washington, D.C.: The Alexander Graham Bell Association for the Deaf.

Mencher, G.T., & Gerber, S.E. (1983). The multiply handicapped hearing impaired child. NY: Grune & Stratton.

Niswander, P.S. (1987). Audiometric assessment and management. In L. Goetz, D. Guess, & K. Stremel- Campbell (Eds.), Innovative program design for individuals with dual sensory impairments (pp. 99-126). Baltimore, MD: Paul H. Brookes.

FACILITATING COMMUNICATION

The development of a system of communication is critical to assuring an individual's participation in a social world. By the time a student reaches high school age he should have developed a system of communication, whether speech, sign, or use of augmentative communication devices (e.g., communication boards). However, some students of high school age with dual sensory impairments and cognitive disabilities have not acquired a functional communication system.

Some of the common examples of adolescents with nonfunctional communication systems include students who appear unresponsive, students who can form a few signs but don't spontaneously use them, and students who have learned so few signs over the years that they can't adequately express their needs in this way.

While it may appear that the immediate point of focus with such students should be the intensified teaching of signs or speech, this may not be the most productive approach. Rather, a more promising avenue may be to begin by engaging students in meaningful activities that provide opportunities for true communication. Language is embedded within life's activities, and will not be acquired by these students apart from meaningful contexts. Given meaningful contexts, opportunities for communication and its instruction will become readily identifiable.

Some reasons why adolescents with dual sensory impairments and cognitive disabilities may have no functional system for communication include one or a combination of the following:

- School personnel and others may seldom talk to or use gestures with individual students. Either broad statements are made that are directed to other staff rather than the affected students (e.g. "Take Maria to gym."); or the communication is merely a directive requiring the student to respond with a motor action (e.g. "Go to lunch.")

- Physical prompts and assistance are relied on instead of the alternate strategy of using natural environmental cues (e.g., instead of moving a soda can into the student's visual or tactile field as a cue for the student to extend his glass, the teacher physically moves the student's hand, with the glass in it, to the soda can and continues holding the student's hand as she pours).

- The student has no way to learn what is expected of her, as the intentions of the individual who is directing the student were not communicated. It is difficult for the student to understand what is expected of her when being physically manipulated (e.g., taken by the hand and walked to the gym).

- There are insufficient opportunities for the initiation of communication by students; nor is there enough time allowed for the students to respond to communication. Everything is anticipated and done for or to the students. For example, periodic toileting times are built into the day's schedule so that students don't experience the need to learn to communicate about toileting.

- There may be lack of consistency in the presentation of gestures or other communicative symbols so that the correspondence between symbol/gesture and their referents is not understood.

- The symbol system used with the students within the classroom is not functional outside the classroom. Therefore, there is limited opportunity for practice and use.

- The student has learned so few signs, and such general signs, that they are not useful in expressing many individual needs, choices, and preferences. Therefore, there is little motivation to use them.

Even when the above conditions have not existed, some students with dual sensory impairments and cognitive disabilities may not have acquired a functional communication system. Whatever the reason for lack of development of a functional symbol system at this point, when the student is 15 or 17 years old, alternate teaching strategies must be used. One such strategy, that utilizes ongoing routines and the objects associated with them, is a system of tangible object cues.

USING A SYSTEM OF OBJECT CUES

The basic assumption a teacher should make is that the student wants to convey a message. All behavior, including maladaptive behavior, should be understood as a means of expression. (See section on "An Approach to Challenging Behavior", pp.157-175.) The teacher's main responsibility then is to implement an intervention strategy that will enable the student(s) to convey his intentions more effectively and functionally. For example, objects associated with daily routines and natural environmental tactile cues can be used to assist the student to begin to anticipate activities within the daily routine. Anticipation of events within daily living routines is a critical component for beginning to develop a communication system.

FUNCTIONS OF OBJECT CUES

Object cues refer to the use of objects as environmental cues to signal the student to perform a specific action or to go to a specific location. Object cues serve four purposes:

- For students who do not understand signs or speech, object cues serve as a receptive input system to increase the student's understanding of what is going on in his environment.
- Object cues can reduce the need for frequent physical prompts that keep students dependent and limit their comprehension of the situation. Object systems provide concrete cues as to what will happen within the student's environment (e.g., fork= "We're going to lunch."; paper bag= "We're going to the supermarket."; french fry container from a fast food restaurant= "We're going out to lunch.")
- Object cues can be used in a "calendar system" (Writer, 1987) that lays out a daily schedule for students. A student can then go the "calendar," which is made up of sequentially arranged object cues, to learn what is going to occur next. A student retrieves the object cue that is associated with a specific activity and then independently moves with it to the location for that activity. (See part on calendar systems, pp. 139.)
- Object systems that focus primarily on the development of receptive skills can be used for the student's expressive

communication, e.g., the student can retrieve a milk container and give it to the teacher when she wants "more milk." Signs, speech, and/or gross gestures should be introduced concurrently in the presence of object cues.

TYPES OF OBJECT CUES

There are several types of object cues, described below, that go from very concrete to less concrete.

Identical Objects. This is the actual object used in an activity, e.g., a ball when the activity to follow is playing ball.

Associated Objects. This is an object closely associated with an activity, e.g., a soup bowl to represent mealtime.

Partial Objects. This is an object that shares some of the features of the object or activity represented, e.g., a small piece of a wash cloth to represent washing up time. The partial object should be clearly distinguishable from the actual object to be used so that it is a representation of the object or activity. For example, the piece of wash cloth can be mounted on cardboard so that it is clear to the student that this is not the actual object to be used, but rather a representation of the activity.

Artificial Symbols. This is a piece of material that has no actual use in the activity, and is arbitrarily selected to represent the activity, e.g., a shiny blue plastic star that is attached to the classroom door. An identical shiny blue plastic star is the object cue used to represent the classroom. (Artificial symbols are limited in that they are usable only by those individuals who are familiar with the meaning established for this symbol. Thus, whenever possible, associated objects or partial objects should be used rather than artificial symbols.)

Photographs. If a student has sufficient vision, and can use partial objects as cues, photographs may be introduced as an additional cuing system.

Line Drawings. Line drawings, while more abstract than photographs, may be used with students whose vision is not sufficient for use of photographs. (Line drawings may be done with thick black markers.)

Thermoforms. For students whose vision is insufficient for responding to either photographs or line drawings, but whose tactile discrimination is good, thermoformed materials, which are three dimensional copies of three dimensional objects or materials, may be used. However, the tactile recognition of objects from thermoformed materials is a fairly abstract process that some students may not be able to master. In addition, access to a thermoform machine is necessary.

One of the major advantages of using object cues is the potential for developing a rich vocabulary. A 15 year old student who may only have acquired 4 or 5 basic signs after years of instruction, may be able to use numerous object cues after substantial instruction. The movement to more abstract symbols must be done in small steps, carefully probing to insure that the student is able to master this progression, and that this change is not interfering with the acquisition of new vocabulary. Whenever an object cue is introduced, this cue should be paired with its sign. Such repeated pairing will increase the likelihood that meaningful use of signs will be acquired.

CALENDAR SYSTEMS

Anticipation responses, as well as the expression of needs, interests, and preferences, can develop through the use of object cues. One of the most common uses of object cues has been in "calendar systems", or "anticipation shelves" (Writer, 1987). These systems use object cues to represent the activities in the student's day. The establishment of such a system requires the maintenance of consistent daily routines, consistently employed activity areas, and stability of participants (staff and students) in activities. Although some activities may occur at the same part of the schedule each day, it is likely that some variation in activities and their scheduling will occur from day-to-day. The critical element in the establishment and maintenance of a "calendar system" or "anticipation shelves" is congruence between the physical arrangements of object cues on a particular day and the schedule of activities actually implemented on that day.

The "calendar" can be a series of small boxes, each with an object in it representing an activity, arranged in the temporal order of the day's activities. Prior to each activity the student is taken to the "calendar" or "shelf" to collect the object cue used to represent that activity. In this way the student comes to associate the object with the activity, and therefore anticipates the upcoming event. The student then takes the cue to the activity. When an activity is completed, the object cue is returned to its box and covered up by the student, or placed in a "finished box." The use of object cues is always accompanied by verbal and sign language communication.

Over time, calendar systems aid in the acquisition of the concepts of time, order, and place. As the student learns the routines, anticipation of daily events and social interactions will develop.

PORTABLE CUING SYSTEMS

For the student using object cues, portable symbol boards may be used in place of the "calendar" boxes. A portable symbol board might be a clipboard with an object cue attached by velcro, or mounted on cardboard and inserted into the clip. The clip boards can be mounted on a wall in one area of the room, for use as appropriate. An alternative to the clipboard is a looseleaf book with cardboard pages on which the object cues are mounted. Students would take these books with them into the community. One example of a highly portable system is a collection of picture cue cards, hole punched, reinforced, and attached to a key ring. These cue cards can be kept in "fanny packs", i.e. a pouch attached to a waistband.

EXAMPLE: Maria (See Profile #6, p.15.)

Maria can now use a portable cuing book with partial objects mounted in it. Maria, a classmate, and the teacher are going to the supermarket to purchase food for lunch. Maria's communication book will contain three object cues representing the food that she is going to purchase. The cues are as follows: the top raised plastic packaging of a particular brand of baloney to represent baloney; the plastic wrapper from a loaf of bread; and an empty package from an ice tea mix. Each item was selected by Maria and her classmate prior to the trip as something they wanted for lunch. Maria will take her communication book to the supermarket. At the supermarket, Maria is guided to the section where packaged baloney is kept, her communication book is opened to the page with the baloney cue. Maria explores the cue and her hands are guided to the area where baloney is kept. Maria is assisted in exploring the shelves both tactually and visually until a package of baloney is identified.

CREATING OPPORTUNITIES FOR COMMUNICATION

One aspect of strengthening students' communication skills is the building in of opportunities for students to communicate throughout the day. Students may not communicate because no one is listening to them or because there is no need to. Questioning students about what is to come, and giving them choices, rather than giving them directives that require only a motor response, is a strategy for achieving this goal.

EXAMPLE: Maria (See Profile #6, p.15.)

Maria has breakfast each day when she arrives at school. It would be easy for Maria's teacher to structure this by always physically prompting Maria about what to do next. No communication on Maria's part would be necessary. Instead, Maria's teacher elicits communication by asking Maria, "what is going to happen?". Maria checks the first box in her calendar system and goes to the breakfast area. Then Maria's teacher gives her a choice of two breakfast cereals, placing a small amount of each cereal in a bowl,and letting Maria choose between them. When Maria's choice is made the teacher helps Maria select the appropriate cereal box and serve herself.

EXAMPLE: Maria (See Profile #6, p.15.)
Each child and adult in Maria's class has an object cue to represent that individual. The object cue for Maria's teacher is a bracelet, since she always wears one. The object cue for one of the teacher assistants is a plastic pin that she puts on each day when she gets to school. Personal cues can either be worn or mounted as portable cues. Maria's classmates put on their object cues upon arrival. A second set of cues is mounted as portable cues. Maria is going to go food shopping with her teacher and one teacher assistant. Each adult will go with two students. Maria is asked which student she wants to go with. The teacher does this by presenting Maria with a display of the object cues (mounted on cardboard) that represent the other students. Maria selects the cue that represents the student she wants to be with. (A number of experiences were needed over a substantial period of time, before Maria was able to consistently associate each cue with the student it represented.)

PARENT ROLE

The identification of object cues should be a process that involves families as well as school personnel. Sometimes parents are already using object cues informally, and the school can build on this. When the student begins to use a set of object cues, families can follow a similar system in the home, both in relation to activity routines, and the expression of needs and choices.

FOR MORE INFORMATION

Musselwhite, C.R., & St. Louis, K.W. (1988). *Communication programming for persons with severe handicaps: Vocal and augmentative strategies* (2nd ed.). Boston, MA: College Hill Press.

Roland, C., & Stremel-Campbell, K. (1987). Share and share alike: Conventional gestures to emergent language for learners with sensory impairments. In L. Goetz, D. Guess, & K. Stremel-Campbell (Eds.), *Innovative program design for individuals with dual sensory impairments*. (pp. 49-76). Baltimore, MD: Paul H. Brookes.

Siegel-Causey, E., & Guess, D. (1989). Enhancing nonsymbolic communication interactions among learners with severe disabilities. Baltimore, MD: Paul H. Brookes.

Siegel-Causey, E., & Downing, J. (1987). Nonsymbolic communication development: Theoretical concepts & educational strategies. In L. Goetz, D. Guess, & K. Stremel-Campbell (Eds.), Innovative program design for individuals with dual sensory impairments. (pp. 15-48). Baltimore, MD: Paul H. Brookes.

Stremel-Campbell, K., & Matthews, J. (1987). Development of emergent language. In M. Bullis (Ed.), Communication development in young children with deaf-blindness: Literature Review III. (pp. 141-184). Monmouth, OR: Teaching Research Division, Oregon State System of Higher Education.

Writer, J. (1987). A movement-based approach to the education of students who are sensory impaired/multihandicapped. In L. Goetz, D. Guess, & K. Stremel-Campbell (Eds.), Innovative program design for individuals with dual sensory impairments (pp. 191-224). Baltimore, MD: Paul H. Brookes.

Rowland, C. & Schweigert, P. (1989). Tangible symbol systems: Symbolic communication for individuals with multisensory *impairments.* Tucson, AZ: Communication Skill Builders.

ADJUSTMENT TO CHANGE

Many students with cognitive impairments have difficulty in adjusting to new environments. Students with severe cognitive disabilities may find it difficult to understand what is happening when they are moved from one activity or environment to another. In the case of students who have sensory impairments in addition to cognitive disabilities, the process of adjusting to changes in environments is even more difficult. These students are cut off from the visual and/or auditory cues that help people prepare for change. A student who sees the teacher put on her coat anticipates going outside. The student who is blind and has limited communication may not have any cues about going out of doors until he tactually experiences his coat. These students live in a world where events may seem to occur in a random and unpredictable manner. Therefore, these students often respond to change (from one activity to another, from one place to another, from solitude to interactional situations, or from interaction with one person to interaction with another person) with expressions of fear, insecurity, or vulnerability, such as self-abuse or tantrums.

There are a number of ways of easing the adjustment or transition to new situations for these students. Below are some ideas.

Situational Change	Adjustment Assistance
Entry of a person into student's space	Devise a cuing system that enables the student to become aware of the approach of another person. When an individual student has usable residual vision, flipping a light switch on and off can become a cue to signify the approach of another individual. In some situations it may be desirable to use a strobe light for this purpose so that the student can distinguish the cue-light from the classroom light. For the student who has no vision but does have some hearing, the approaching person can call the student's name to get the student's attention and then tell the student of his presence (including his identity). In some instances it may be desirable to have an auditory cuing system (e.g., a buzzer or a small bell) that can be triggered by the approaching person in lieu of

calling the student's name.

When approaching students who are deaf and blind, neither auditory nor visual cues can be used. For these students, tactile cuing systems that rely on air movement, vibration and touch can be used to alert the student that another individual is approaching.

In devising a cuing system for the student who is deaf-blind, consideration of the student's age, personal style and preferences is necessary.

EXAMPLES: Robert, John, Joanna & Maria (See Profiles #3, #4, #5, #6, pp. 13-15).

In John's classroom, an oscillating fan positioned on the wall behind John's work area was wired to be turned on by depressing a switch. The fan moves the air so that it passes over his upper torso and head.

Because of the distance away from John's work area, the current is strong enough to be detected but not too strong as to disrupt materials.

Robert uses a vibrating signal device throughout his school day. The unit that Robert uses is worn clipped to his belt, much like a beeper and is triggered to vibrate by a transmitter unit worn by instructional staff. (See Appendix C, pp. 254, for source of such units.) Robert has used this system for a number of years and is able to differentiate between various vibration rates generated by the unit. Each vibration rate serves as a cue for what is happening. One vibration rate may signal the approach of the teacher; another may signal a change in activity; yet a third may be a fire drill signal.

Joanna's teacher wishes to purchase a vibrating signal device to use as a cuing system with her. The beeper type receiver would not be optimal for Joanna, so a wrist worn receiver was purchased.

Maria's teacher and parents wanted to develop a cuing system for Maria that did not rely solely on touch. Maria's teacher attempted to use a vibrating signal device and found that such a system was completely wrong for Maria as it caused her discomfort and led to challenging behaviors. Other alternatives such as an oscillating fan and make-shift air movement (e.g., moving air near Maria's upper torso by waving a paper near her) did not work well, as Maria seemed to focus on the air movement as a source of enjoyment and did not associate it with its paired event, i.e., the cue that someone was there to interact with her. Ultimately, Maria's teacher decided to cue Maria that he was there to work with her by knocking/tapping her work area (table top) and then placing his hand on the outside of her forearm.

After the entry of a person has been signaled, the person may use speech, touch, sign language and/or object cues to further communicate his presence. When touch is going to be used, a firm but gentle approach is recommended, while attending respectfully to the individual's personal and physical space. Approaching an individual and placing a hand (palm down) on his forearm or upper arm may be more comfortable than would be a series of taps. Some teachers approach their students by placing a hand on the student's upper back between the shoulder blades. Where on the body the approaching person decides to touch the student who is deaf-blind warrants attention in light of the high frequency that these individuals are touched by others.

When object cues or signs are used to

further represent the identity of an approaching individual, these should be as distinct as possible to allow the student to positively identify the person seeking interaction. For example, an individual may identify herself by a piece of jewelry (ring, bracelet) that she always wears, or by an object that is associated with her relationship to the student. Thus, an audiologist may use a hearing aid to identify herself. An object cue may not have any intrinsic connection to the person with whom it is to be associated, e.g., a yellow smooth triangle worn by the audiologist. Cues with intrinsic connections to the people with whom they are to be associated are transferable across varied settings, and for that reason are more desirable. However, the strength of all cues is based on repeated and consistent pairing with the person or object it represents.

Change from one activity to another	Establish a method for communicating "stop" and "finished". This may be a verbal cue, a sign, a gesture or an object cue. It should be used both by the teacher and the student. Whenever this is used, but especially when this is first introduced, an immediate outcome should follow. For example, when the student communicates "finished" during an activity, it is helpful to allow the student to move on to another activity of his choice even if more was expected of the student. (The activity could be re-introduced later on in the day.) Once the message "stop" or "finished" has been conveyed, communicate to the student (e.g. verbally, in sign, in gesture, object cue, etc.) what the next activity will be. For the student who is already using a calendar system or anticipation

shelves (see section on facilitating communication), the transition from one activity to another can be focused on as an activity itself. The student can return the symbol for the activity that is ending to the "finished" area and can pick up the symbol that represents the next event or can choose among a few symbols to express his preference.

It is helpful to include in a student's anticipation shelves or calendar system symbols that represent events that occur with regularity yet not daily. For example, a symbol to represent the doctor or "new teacher" (substitutes). These can be used to help explain changes to or interruptions in the student's routine.

While it may not be possible to give the student a choice of a given activity, within activity choices still exist. For example, the student may use symbols to indicate what food items he wants from the lunch menu, where he wishes to sit during an activity or with whom he wishes to walk when going to another room.

Teach the student a way of communicating "no", e.g. by signing, pushing away material or by using an object. Once the student has mastered this, give him the opportunity to use it. Respect the student's expression of "no" wherever possible.

FOR MORE INFORMATION

Liberty, K., Moran, D., Cole, L., Frost, J., Gorman, B., (1989). Systematic touch cue communication for students with deaf-blindness, profound intellectual disorders, physical handicaps and maladaptive disorders. Washington Research Organization, College of Education, Seattle, WA: University of Washington.

AN APPROACH TO CHALLENGING BEHAVIOR[*]

In moving students toward greater independence, teachers may encounter student behavior that interferes with progress toward goal attainment, including acceptance and integration in the community, and that places the individual or others at risk. Such behaviors might include striking out at others, self-injurious behavior, inappropriate public sexual behavior, and destruction of property. Teachers need to understand the functional value of this behavior to the student as a first step toward helping the student develop more appropriate means of meeting his/her needs or attaining his/her wishes.

UNDERSTANDING THE FUNCTIONAL SIGNIFICANCE OF A BEHAVIOR

Challenging behaviors may be viewed as a strategy by which students try to obtain or maintain attention, obtain or retain an object or activity, avoid an unpleasant situation or demand, engage in activities that provide self- stimulation, or communicate discomfort about a situation (Durand and Crimmins, 1988).

Challenging behaviors may be a response to inactivity or to activities of little value to the individual. Challenging behaviors that are exhibited frequently over a period of time are behaviors that are effective because they achieve their ends. The teacher's task is to determine the meaning of a particular challenging behavior so that the instructional program can address the development of more appropriate behaviors that meet the student's functional needs. This may not be a simple process. It may require much probing and problem solving within a team.

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[*] The term "challenging behavior" refers to self-injurious, disruptive behavior, as well as to stereotypic and non-responsive behavior that interferes with learning and participation.

ASSESSING THE FUNCTION AND SIGNIFICANCE OF CHALLENGING BEHAVIOR

One way to begin to understand the communicative meaning of an inappropriate behavior is to look at it in the context of a school day. Lets do this with Sergio (See Profile #2, p.13.) using an Ecological Performance Analysis. In this procedure the activities of the day are listed in chronological order, with a brief description of the student's behavior during each activity. Behavior that interferes with progress toward the goal of greater independence, or that presents a threat to the well-being of Sergio or others, is then rated as a minus. If the behavior does not interfere, it is rated as a plus.

EXAMPLE: Sergio (See Profile #2, p.13.)

Activity	Description of performance	Rating
Breakfast	Sergio tells the teacher what he wants for breakfast and, with some guidance, prepares it.	+
Transition to industrial arts shop	Sergio and his two classmates go to the industrial art shop in the school accompanied by a teacher assistant. Sergio uses trailing. Along the way he hits himself in the head several times.	+ -
Industrial arts activity	When a new task is introduced, Sergio punches himself.	-
	When the instructor tries to stop him, Sergio strikes the instructor.	-

Transition to lunchroom including wash up	Trails to the bathroom, and to the lunchroom.	+ +
Work with lunchroom staff to set up for lunch	Works well for a few minutes. When another student drops a tray, he begins rocking back and forth and slaps his face intermittently.	+ -
Transition to classroom	Trails to classroom.	+
Listens to story tape	Selects tape with teacher's help. Uses head phone.	+ +
Transition to lunchroom	Resists removal of headphones, striking out at teacher when she removes them.	-
Lunch	Selects food and eats appropriately.	+
Transition to classroom	Trails calmly to classroom.	+

Preparation for shopping in supermarket	Rocks during preparation.	-
	Answers some simple questions directed toward him.	+
Transition to supermarket	Walks with sighted guide to market.	+
	When a siren is heard, he begins to slap himself and pinch teacher's arm.	-
Shopping	Participates in selecting food items and bagging them.	+

Next the minuses are examined to identify patterns of challenging behaviors, the conditions under which they occur, and the apparent or possible functional meaning of these behaviors. Below is an example of such an analysis.

Challenging Behavior: Hits or punches self

CONDITIONS	POSSIBLE SIGNIFICANCE OF BEHAVIOR FOR INSTRUCTIONAL STRATEGIES
Transition from classroom to shop	o Does Sergio want to go to the industrial arts shop? o Has his choice or preference been elicited and respected?

	o Is the movement from one place to another in-and-of-itself stressful to Sergio? o Is Sergio frightened because he can't anticipate what will happen next?
A new task is introduced in the industrial arts shop.	o Does Sergio want to engage in this new task? o Has his choice or preference been elicited and respected? o Is the introduction of a new task in-and-of-itself stressful to Sergio?
Sergio is helping to set up the lunchroom when another student drops a tray, making a loud noise.	o Is a sudden, unanticipated noise upsetting to Sergio?
A siren goes off when the students are walking to the supermarket.	o Does the loud, sudden noise upset Sergio?

POSSIBLE FUNCTIONS OF SERGIO'S HITTING AND PUNCHING OF SELF

- Avoiding undesired activities and demands
- Avoiding movement from one place to another (that Sergio finds stressful)
- Avoiding unsignaled (unanticipated) and/or unpredictable situations (that are frightening to Sergio)

Challenging Behavior: Hits and punches others

CONDITIONS	POSSIBLE SIGNIFICANCE OF BEHAVIOR FOR INSTRUCTIONAL STRATEGIES
The instructor of industrial arts attempts to keep Sergio from punching himself.	o Is restraint upsetting to Sergio? o Was Sergio's action the only substitute available to him when he was stopped from expressing his distress by self-abusive behavior? o Was this action also a response to the introduction of a new activity that Sergio may not have chosen and/or couldn't handle?

Siren goes off when students are walking to the supermarket.	o Is this sudden, loud noise upsetting to Sergio?
Teacher tries to remove headphones to change activities	o Has the teacher sufficiently prepared Sergio for the end of the activity? o Is listening to tape a favored activity? o Does Sergio know what is to occur next? o Does he enjoy his next activity?

POSSIBLE FUNCTIONS OF SERGIO'S HITTING AND PUNCHING OTHERS

- Escaping from restraint
- Avoiding an undesired or stressful activity
- Communication of escalating distress resulting from change, unpredictable situations, or unanticipated loud noises

Challenging Behavior: Rocking

CONDITIONS	POSSIBLE SIGNIFICANCE OF BEHAVIOR FOR INSTRUCTIONAL STRATEGIES
Sergio is helping to set up the lunchroom when another student drops a tray, making a loud noise.	o Is this sudden, loud noise upsetting to Sergio?

POSSIBLE FUNCTIONS OF SERGIO'S ROCKING

- Coping mechanism in response to distress caused by sudden, unanticipated loud noise.

WHAT ARE THE POSSIBLE PRECIPITANTS OF ALL OF SERGIO'S CHALLENGING BEHAVIORS?

1. Fear resulting from change that Sergio is not made ready for
2. Sudden, unanticipated loud noises
3. Lack of choice of activities
4. Cessation of favored activities
5. Restraint
6. Inadequate support during transitions

To further evaluate these possible explanations, we need to go back to the ecological performance analysis and examine challenging behaviors in light of Sergio's positive responses.

1. CHANGE IN ACTIVITIES. There does not seem to be strong evidence to support the idea that the introduction of a new activity, in-and-of-itself, would precipitate challenging behaviors. However, unanticipated change may well do so. Therefore, the teacher would need to look at whether Sergio was appropriately prepared for the change in activity that was about to take place, and whether he was given sufficient support in meeting expectations in regard to this activity.

2. SUDDEN, UNANTICIPATED LOUD NOISES. In every situation in which these occurred, Sergio demonstrated challenging behavior. Therefore, sudden, unanticipated loud noises can be assumed to be a situation with which Sergio needs assistance.

3. LACK OF CHOICE OF ACTIVITIES. The teacher needs to examine whether going to the industrial arts shop and working on the particular new task presented were activities in which Sergio had any choice. If this was not the case, it is likely that lack of choice and lack of a participatory role in activity selection contribute to his challenging behaviors.

4. CESSATION OF FAVORED ACTIVITIES. It is not clear from the data reported whether this is a consistent pattern. What needs to be looked at further is whether Sergio was given any choice about the next activity, whether he was adequately prepared for the change of activities, and whether he was given adequate support in moving from one activity to another.

5. RESTRAINT. It is not clear from the data reported whether it was the restraint itself, the prior distress, or a combination of the two that caused the challenging behaviors. If the prior distress was the primary precipitant, reduction of this original distress may be the most productive approach. Whether or not restraint was the precipitant, restraint is not the most appropriate way of attempting to reduce Sergio's self-injurious behaviors. Alternatives aimed at preventing or reducing Sergio's self-injurious behavior are far more likely to be beneficial.

6. TRANSITION. The data do not support the idea that transitions, in-and-of-themselves, precipitate challenging behaviors. Therefore, the teacher would again need to examine whether Sergio's preferences about activities were respected, whether he was adequately prepared for change, and whether sufficient support was provided at stressful points during transition periods.

RECOMMENDATIONS

Based on the above analysis, Sergio's teacher would plan strategies to (1)increase Sergio's participation in choosing his activities; (2)help prepare Sergio for change in activities; (3) provide more support when new activities (and expectations) are introduced; (4) help Sergio learn to cope with loud, sudden noises; and (5) teach Sergio more appropriate ways to communicate that he does not want to participate in an activity, that he needs a break, or that he needs help.

SOME STRATEGIES FOR REDUCING CHALLENGING BEHAVIOR

The most appropriate and helpful strategies for dealing with challenging behaviors are: teaching alternate positive behaviors; teaching adaptive (coping) skills; developing greater communicative competence; focusing on activities that have functional value for the student; increasing opportunities for student choice making; providing support during difficult activities. All of the above strategies work best when set into the general framework of an on-going relationship characterized by caring and a desire to make a better life for the student.

INSTRUCTION

One of the common precipitants of behavior that instructional staff may identify as noncompliance is lack of understanding or skill in performing activities as expected. This situation may include lack of or only partial understanding of what is expected, and/or lack of some or all of the skills required in an activity. Before a teacher assumes that challenging behavior is a reflection of a student's desire not to do something, he/she should ensure that the student understands and is able to carry out the activity. The first step in this process may be to ask the following questions:

1) Has the student ever demonstrated understanding of the instructions under similar conditions?
2) Has this student ever demonstrated understanding of similar instructions under different conditions?
3) Has the student ever completed the activity in question? If so, what assistance was provided in this process?

If the answers to these questions are no, then the teacher should treat this problem as an instructional issue, i.e., as one in which more effective means of communicating task expectations to the student needs to be developed. An effective way for the student to communicate about the task needs to be identified, and the student needs to be assisted in learning the skills involved in completing the activity or in partially participating in an activity that he/she cannot complete independently.

(If the answers to these questions are yes, then one would need to explore motivational factors such as lack of relevance or boredom with the activity.)

PARTICIPATION IN DECISION MAKING

Very often challenging behaviors result from a situation in which the student has little input into choice of activities. Thus, some activities may be of little personal value or meaning to the student. When this occurs, self-stimulating behaviors, withdrawal, self-abusive behavior, and aggressive actions towards others are more likely.

A helpful approach to changing this process is for the teacher to review all plans with the following questions in mind:

(1) How can choice be built into the selection of activities for an individual student?
(2) How can choice be built into each activity itself?

ENGAGING IN FUNCTIONAL ACTIVITIES

Some students who exhibit challenging behaviors in classroom settings demonstrate far fewer of these behaviors while engaged in meaningful activities in integrated settings outside the classroom. The very students who are often kept from participating in community activities because of their challenging behavior in the classroom, may be the ones whose behavior will be the most responsive to the demands of meaningful functional activities in the community. Such experiences, with appropriate preparation and support, may turn out to be the most valuable approach to reducing challenging behaviors in these students. However, for some students with sensory and cognitive impairments the newness (strangeness) of community experiences may be disturbing at first. For these students the introduction to community-based activities should be gradual.

During the school day on which Sergio was observed, some functional activities took place, e.g., helping in the lunchroom, preparation for making lunch. However, one might want to examine whether more meaningful, functional activities, both within the school and in the community, could be taking place. For example, could Sergio participate in additional school activities that might have vocational value, e.g., working with one of the maintenance staff? Could a supported vocational experience in the community be developed?

TEACHING ALTERNATIVE BEHAVIORS

Some situations that may be stressful to individual students cannot be avoided. Students, particularly as they move toward greater community participation, must learn to deal with such occurrences. Loud noises appeared to be one such source of stress for Sergio. One major approach to assisting in such situations is to help the student find a means of communicating his feelings about the situation. Another approach would be to gradually desensitize the student to the stressful situation. A third approach might be to give the student an age-appropriate object to manipulate as a means of controlling his anxiety. All of these strategies and perhaps others, may need to be implemented in a particular case.

COMMUNICATING FEELINGS. Since Sergio uses speech, he can be taught to talk about how he feels when a loud noise occurs, and what support he needs, e.g., "That scared me. What was that loud noise? Tell me." For students who don't speak, signs or signals can be designed to indicate, "I am frightened. I need help." The communication of these feelings will cue the instructional staff that Sergio needs support.

Similarly, when a student exhibits difficulties with transition from place to place, he/she might be taught to express the source of these difficulties, e.g., "Where are we?"

DESENSITIZATION. This is a technique for helping individuals become less frightened about particular situations, through a technique of gradual exposure and preparation. This technique is appropriate for situations that cannot always be avoided without restricting the individual's life. With Sergio desensitization might involve gathering a series of objects that he can activate to produce, at first, soft sounds, e.g., a cafeteria tray that he can drop to the table from a couple of inches above it, or tools in the industrial arts shop that produce mild to moderate sounds. After Sergio has practiced producing these sounds without apparent stress, he can be introduced to louder sounds, e.g., dropping a tray to the floor from a table, or using tools that produce loud sounds. While this process is occurring, Sergio and his teacher should be talking about what is happening and how it makes him feel. Teacher: "What a loud noise you made with the tray. Did it scare you?" Sergio: "Scare you?" Teacher: "Do you want me to move closer to you?" Sergio: "Closer to you." Teacher: "Ok. Now I will drop it. (The teacher drops the tray only a couple of inches.) Did that scare you?" (As Sergio is echolalic, the teacher must take care that Sergio actually understands and is responding appropriately to the teacher's communications.) Once Sergio has learned to cope with controlled and predictable loud sounds, experiences can be designed that gradually introduce uncontrolled/unpredicted sounds of increasing loudness.

WORRY BEADS. Many adults keep some kind of comforting object in their possession at all times. When stressed, they often manipulate these objects. "Worry beads" is the most common example of such an object. A "rabbit's foot" is another example. Such objects must be individually tailored to students who may need them.

FOR MORE INFORMATION

Donnellan, A.N., LaVigna, G.W., Negri-Shoultz, N. & Fassbender, L.L. (1988). *Progress without punishment: effective approaches for learners with behavior problems*. New York: Teacher's College.

Durand, V.M., & Crimmins, D.B. (1988). Identifying variables maintaining self-injurious behaviors. *Journal of Autism and Developmental Disorders, 18*(1), 99-117.

Durand, V.M., & Crimmins, D.B. (1988). *The motivation assessment scale: An administration manual*. Albany, New York: The University at Albany, State University of New York.

LaVigna, G.W., & Donnellan, A.N. (1986). *Alternatives to punishment: Solving behavior problems with non-aversive strategies*. New York: Irvington Publishers.

McGee, J.J., Menolascino, F.J., Hobbs, D.J., & Menousek, P.E. (1987). *Gentle teaching: A non-aversive approach to helping persons with mental retardation*. New York: Human Sciences Press.

Meyer, L.H., & Evans, I.M. (1989). *Non aversive intervention* for behavior problems: A manual for home and community. Baltimore, MD: Paul H. Brookes.

Durand, V.M., Crimmins, D.B., Caulfield, M. & Taylor, J., (1989). Reinforcer Assessment I: Using problem behaviors to select reinforcers. Journal of the Association for Persons with Severe Handicaps, 12, pp. 2-10.

GROUP INSTRUCTION

Teachers traditionally think of group instruction as teaching the same thing, in the same way, to a group of students. This is a very narrow definition of group instruction. In the context of a functional curriculum, group instruction can be more appropriately conceptualized as using a cooperative group structure toward a common goal. Group instruction is also traditionally thought of as involving a format of one teacher to several students. However, group instruction for students with severe disabilities may involve two or three adults and/or peer tutors, working with several students within a group structure.

WHAT IS EFFECTIVE GROUP INSTRUCTION?

Effective group instruction is the instruction of 2 to 4 students that allows for as much student participation and interaction as possible, during the process of moving toward greater competence in community-based activities.

WHAT ARE THE BENEFITS OF GROUP INSTRUCTION?

- Group instruction provides a natural context for learning certain community, recreational, and domestic activities that are typically performed in the presence of others.

- Group instruction provides a natural context for teaching social and communication skills.
- Group instruction reduces periods of idle time that may occur for some students while others are receiving one-to-one instruction.
- Group instruction provides many opportunities to implement partial participation through the sharing of tasks.

WHAT TYPES OF ACTIVITIES ARE APPROPRIATE FOR GROUP INSTRUCTION?

Activities that typically involve interaction with others, and activities that are conducive to cooperative group participation, are appropriate targets of group instruction. Thus, activities such as dining out, and playing cards or dominoes, are obvious choices for group instruction. Group instruction can also be used in teaching such activities as meal and snack preparation, and shopping.

WHAT TYPES OF ACTIVITIES ARE NOT APPROPRIATE FOR GROUP INSTRUCTION?

Activities of a private nature, such as toileting and dressing are not appropriate targets for group instruction.

PREPARING FOR GROUP INSTRUCTION

- In selecting students for group instruction consider which students like each other and work well together. This variable may well be more important than functional levels in forming effective groupings. When students like each other (or can be helped to develop a positive relationship) they can assist each other in accordance with their differing abilities and skills. Good groups often contain students with varying levels and types of skills.
- Select activities that can be divided into meaningful units or skill sequences. Decide which unit or units each student should be taught. For example, the activity of "doing dishes" might be divided into three units: washing, drying, and stacking. Robert might be taught to wash the dishes, with John drying, and Joanna stacking them. (See Profiles #3, #4, #5, pp. 13, 14, & 15.)
- Identify ways for group members to interact with each other at each step of the activity.
- Situate students so that they can interact with ease. Consider each student's visual and auditory capabilities, in terms of proximity to each other and the teacher. Consider also each students's need for physical assistance and ability to provide physical assistance to other students.

- Another factor to consider in planning group instruction is the mode of communication of the students selected. When students with different modes of communication are included, more than one adult may be needed. The adult(s) working with the group must be able to communicate in the most effective mode for each student during the activity.

  <ins>EXAMPLE</ins>: Robert and Maria (See Profiles #3 & #6, pp. 13 & 15.)
  Knock hockey is a table game for two players that is popular with young students and adolescents. Game materials include 2 small hockey sticks, 1 puck, and a game board. The object of knock hockey is to use the hockey stick to hit the puck through the opening in the edge of the game board at the opposing player's side. A small, wooden block acts as a barrier, obstructing direct entry to the opening at each end of the board.

  This game was adapted for use with Robert and Maria. The border of the game board was painted a dark blue. The bottoms of the hockey sticks were also painted dark blue. The openings at each end of the board were highlighted in bright red. The puck was painted bright yellow. These colors helped to define the critical physical parameters of the game. The barriers in front of the openings were removed. A "mini beeper" (See Flaghouse Catalogue in Products List) is attached to the edge of the game board above the openings to provide auditory guidance toward the goal for Maria. A small bell was placed in the net beneath each opening so that when the puck entered the net (the goal) the bell would jingle, perhaps giving auditory feedback to Maria.

The teacher used the following strategies to teach Robert and Maria to play knock hockey: teacher modeling, tactual exploration, physical assistance, verbal and signed instructions, tangible symbols in communication books, and reinforcement for each goal scored.

- Modeling. The game began with the teacher and an assistant teacher playing knock hockey while Robert and Maria each stood next to one of them and watched the game being played.
- Tactual Experience. Robert and Maria tactually explored the edges of the game board, the openings, the hockey sticks, and the puck.
- Verbal and signed instruction. Robert and Maria received verbal and signed instructions along

with demonstration.

- Augmentative communication. Robert and Maria worked with their teachers in developing symbols to represent knock hockey for their communication books, e.g., a flat, round balsa wood disk used to represent the game, and a bright colored, smooth plastic poker chip to represent scoring a goal. In addition, Robert's book contained a raised line drawing of a hockey stick that he could also associate with playing knock hockey.
- Physical Assistance. Initially both Maria and Robert were positioned at the ends of the game board and each was given a stick to hold. Robert was physically guided in hitting the puck toward the opening while Maria waited. Then Maria was given physical guidance. This turn taking was appropriate as it reflects the process in the actual game. Robert quickly became adept at the game and physical assistance could be faded. Maria continued to require partial physical assistance.
- Reinforcement. Each time a goal was scored, the student was given a plastic poker chip that corresponded with the symbol for a goal used in the student's communication book. In

> addition, the teacher gave the student a light hug and a thumbs-up sign. Robert and Maria were taught to use this sign for "job well done", whenever their partner made a goal. As soon as this sign was established, the hugs and chips were faded.

As Robert and Maria become more skillful at knock hockey, the teacher will add a smaller version of the standard barrier that blocks direct entry to the openings at either end of the game board. Eventually, if the students appear to be able to manage it, the full-sized standard barrier will be returned to the board. This will enable the students to play the game very much as it would be played by others. This game can serve as a useful vehicle for recreational interaction with nondisabled students.

EXAMPLE: Sergio, Joanna, Maria (See Profiles #2, #5, & #6, pp. 13 & 15.)
Meal preparation can be accomplished by one person. It can also be learned and practiced in a cooperative task structure, in which two or three people work together.

Each week Sergio, Joanna and Maria go to a group home near the school to receive instruction in domestic activities. (The school administrator has made arrangements with a local voluntary agency to use this group home for instruction in a natural setting.) Sergio, Maria, and Joanna have occupational therapy (OT) listed as a related service on their IEP's. The occupational therapist felt that meal preparation provided a natural and functional context within which to accomplish the IEP goals of these students for OT.

In the morning, prior to the group home, Sergio, Joanna and Maria planned their lunch menu. They decided upon peanut butter and jelly sandwiches, potato chips, and fruit punch. Additionally, each person's lunch-making responsibilities were defined. They then went to the market to purchase the necessary groceries with their occupational therapist and a paraprofessional.

At the supermarket Maria took out her communication book. The first page contained a picture of a shopping basket. She obtained a shopping basket and handed it to Sergio. As Maria located each item in her communication book she either put it in

Sergio's basket or put it on Joanna's lapboard.

In walking to the group home, Sergio walked sighted guide with the paraprofessional. At the same time, he carried the bag with the fruit punch. Maria, with the support of the OT, pushed Joanna's wheelchair to the group home. On Joanna's lap was a shopping bag with small plastic jars of peanut butter and jelly, a bag of potato chips, and a small loaf of bread. To assure that the bag of groceries would not fall, Joanna's right arm was placed through the handles of the shopping bag. As both staff members are aware that Sergio has become agitated by sudden loud noises in the past (See section on "An Approach to Challenging Behavior", pp. 157-175), during the walk to the group home the paraprofessional talked with Sergio about what they are doing, what is happening around them, and what they will be doing soon at the group home.

When the group reached the kitchen of the group home, the activities that had been planned were implemented. While Maria located these items and placed them on the table, Sergio was assisted in locating the plates and bowls. In the meantime the O.T. placed a splint on Joanna's hand. Then while

Sergio set the table, poured the drinks, opened the potato chips bag, and put the potato chips in a bowl, Maria and Joanna worked with the OT in spreading peanut butter and jelly on the bread. Maria took the bread from the bag and spread peanut butter on the slices. Joanna spread jelly on the bread, an activity in which she needed practice. (See section on "Prompting as an Instructional Strategy", pp. 221-225) Joanna and Maria, together with the occupational therapist, cut the sandwiches. The assistant manager of the group home joined the students and school staff in eating after the preparations had been completed.

FOR MORE INFORMATION

Johnson, J.L., Flanagan, K., Burge, M.E., Kaufman-Debriere, S., & Spellman, C.R. (1980). Interactive individualized instruction with small groups of severely handicapped students. Education and Training of the Mentally Retarded, 15, 230-237.

Todd, A.W., Benz, M.R., & Ferguson, D.L. (1987). Integrated programming and instruction for students with severe disabilities: Module 2-integrated group instruction.

Eugene, Oregon: University of Oregon Specialized Training Program and local education agencies.

FOSTERING FRIENDSHIP AND OTHER RELATIONSHIPS

One of the common themes in the reports of parents of adolescents who have severe disabilities is the aloneness of their sons and daughters. One of the frequently voiced wishes of these parents is that their children would have friends.

Friendship is not something a teacher can program, like gym or physical therapy or vocational experiences. It is a mutual attraction that happens between people, with varying degrees of predictability. However, without opportunity, friendships cannot develop. School staff can provide a framework that encourages relationships and helps them flourish. Moreover, if students with severe disabilities are to be integrated into communities, rather than isolated within them, relationships cannot be limited to schoolmates.

There is a growing body of literature on the functions of friendships (Perske & Perske, 1988):

> Friends help us stretch beyond our families...
> Friends help us move beyond human service goals...
> Friends help us rehearse adult roles...
> Good friendships are attractive...
> Friendships generate their own energy...
> Friendship becomes a haven from stress...
> Friends can demystify strange behaviors...

> *Friendships are reciprocal.* Both parties receive enrichment from the relationship...
> *Every friendship is unique and unrepeatable.*

There is also a growing body of literature on the dynamics of friendships and the kinds of conditions that support the development of relationships. First and foremost in this realm is opportunity.

Adolescents with severe disabilities are often deprived of many of the experiences through which friendships develop. They may not go to school in the communities in which they live, making it difficult to engage in social activities with other students from their school, and depriving them of a milieu in which to form relationships with other adolescents from their neighborhood. They may not use community recreational facilities; may not participate in social activities associated with religious groups; and are unlikely to "hang out" at a neighborhood pizza shop.

Even when adolescents with severe disabilities do use the same facilities as other adolescents in the school and community, there may be other conditions that sometimes serve as barriers to the formation of relationships. The most obvious of these, in relation to adolescents with visual or dual sensory impairments as well as cognitive disabilities, is communication. Two students with severe disabilities may have difficulty in communication because they have limited communication systems or because they use different communication systems. Communication between these adolescents and their nondisabled peers may be hampered for similar reasons. Differences in skill levels, and the stereotypic behaviors of some students with disabilities, may also discourage some nondisabled adolescents from entering into and maintaining relationships.

For all of the above reasons school personnel involved with students who have severe disabilities must give considerable time and effort to devising and supporting ways of fostering relationships among students with disabilities as well as between these students and nondisabled individuals.

HOW CAN INSTRUCTIONAL STAFF HELP STUDENTS FORM RELATIONSHIPS WITHIN THE CLASSROOM?

One quality basic to friendships and many other kinds of relationships is reciprocal interaction between two people, i.e., the experience of both giving and receiving something valuable. Teachers can provide students with opportunities for reciprocal interaction with peers. There are several ways to do this. First, teachers should observe carefully to determine whether any students are exhibiting signs of preference for one another. These signs may include sitting near one another, walking together, physical contact, and other attempts at communication. If such signs are present, teachers can help develop this preference by creating more opportunities for these students to be together.

Another approach to providing opportunities for peer interaction is to teach activities that involve the interaction of two or more students, e.g., playing dominoes, or making popcorn for a snack. (See section on "Group Instruction", pp. 176-186.)

A third way of providing opportunities for peer interaction is to foster mutual assistance between students in activity completion, e.g., one student who has usable vision walks with a classmate as a sighted guide.

WHAT ARE SOME SKILLS THAT FACILITATE RECIPROCAL INTERACTIONS?

There are a number of social skills that will increase the frequency of reciprocal interactions. These skills need to be taught within the context of functional activities. The following examples identify these social skills, and illustrate a teacher's efforts to foster them through modeling, prompting, and reinforcement.

EXAMPLE: Robert and Maria (See Profiles #3 & #6, pp. 13, 15)

SHARING FEELINGS*

The teacher noticed that Robert sometimes initiates contact with Maria when he is in close proximity to her. He does this by touching her arm with his hand and putting his face close to hers. Maria appears pleased with the interaction. She demonstrates this by smiling and remaining close to Robert.

SHARING ACTIVITY*

Twice a week students in this class work individually with the assistant teacher on filling a refrigerator in the cafeteria with soda. The teacher realized that this job could easily be shared by two students. Having observed the positive interactions that sometimes took place between Robert and Maria, the teacher selected the two of them to work with the teacher aide at the same time.

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* Adapted from Grenot-Scheyer, Coots, & Falvey, 1989.

THOUGHTFUL ACTION

Robert, Maria, and the teacher aide go to the cafeteria together to carry out this job. Robert, who has some functional vision, is encouraged to serve as a sighted guide to Maria. She holds on to his arm as they walk to the cafeteria.

REINFORCING YOUR PARTNER*

Robert feels good helping Maria, and Maria, in turn, feels good that she is being helped. A smile, laugh or a soft touch from Robert and Maria might serve to demonstrate that the interaction is pleasing to both of them. The teacher aide models this by touching Robert softly on the shoulder and then guiding Robert to touch Maria lightly on the shoulder. She repeats this procedure with Maria. She also smiles at both students during this time and signs "happy" to them.

GETTING THE MESSAGE ACROSS*

Maria is instructed to hand Robert the soda cans that he then stacks in columns in the refrigerator. Maria needs to pick up a soda can and wait for Robert to take the can from her hand. Robert, in turn, must wait for Maria to obtain the next can. Robert and

ATTENDING TO THE MESSAGE	Maria must attend to each others messages and get the message across that each is ready for the next step.
REINFORCING YOUR PARTNER*	The teacher aide uses modeling and physical guidance to show Robert and Maria how to gently pat each other on the shoulder after filling the refrigerator with a carton of soda cans

EXAMPLE: Ed and Sergio (See Profiles #1 & #2, pp. 12 & 13.)

HAVING SIMILAR LIKES OR DISLIKES*	In Ed and Sergio's classroom, there are plants that must be cared for. The teacher noticed that both Ed and Sergio appeared to enjoy watering and spraying the plants.

____________ SHARING ACTIVITY* ____________	Although Ed and Sergio never expressed interest in one another, the teacher felt that their similar interest in caring for plants might be a basis for fostering friendship. Thus she had the two of them work together on watering and spraying the plants.
____________ LOYALTY* ____________	Robert has grand mal seizures from time to time. One time when Robert had a seizure in the classroom, the teacher noticed that Ed kept close and watched what was going on. When the seizure was over, the teacher had Ed get a pillow for Robert to rest on and asked him to sit with Robert and herself until Robert was feeling better. The teacher communicated to Ed how important helpers are when people are in trouble.

WHAT ADDITIONAL FACTORS MAY COME INTO PLAY IN HELPING STUDENTS FORM RELATIONSHIPS WITH NONDISABLED INDIVIDUALS?

Relationships between students with disabilities and their nondisabled peers cannot flourish without the commonality of shared situations. This condition is far easier to create when students with disabilities are integrated into regular schools. Brown, et.al. (1989, p.4.) identify 11 types of social interaction that can (and should) take place in schools or that grow out of school contacts between typical students and students with severe disabilities. These include peer tutoring, eating companionship, regular class companionship, extracurricular companionship, and travel companionship. Brown, et al. conclude that all 11 types of relationships have a better chance of being developed and maintained when students are integrated into their neighborhood schools.

However, many students with visual or dual sensory impairments and cognitive disabilities are presently in segregated school settings. Instructional staff in these situations need to be particularly creative in finding ways to provide for contact and interaction under these conditions.

One might think of several major avenues for facilitating relationships between students in segregated schools and nondisabled individuals. The first of these is the development of a "buddy" school. What this might entail is a commitment between the two schools to provide on-going opportunities for shared situations in which relationships may develop.

Another avenue for facilitating relationships is community-based activities that allow students with disabilities the opportunity to relate to adults in community environments in on-going ways. This can be best facilitated through activities that take place in the student's own community.

Earlier it was stated that friendships cannot be programmed. On the other hand a significant number of typical people, including adolescents and adults, are willing to accept people with severe disabilities if given the opportunity (Taylor & Bogden, 1987). Typical people involve themselves on their own terms in relationship with individuals with severe disabilities. A major component of friendship is that it's of a voluntary nature and freely shared. Friends choose to come together in the absence of obligation, although initial contacts may have involved other considerations, such as community service activities.

Peer programs such as buddy systems, will only be effective if the nondisabled students involved are able to develop accepting feelings toward the students with severe disabilities. Likewise, students with disabilities have preferences too. They will often clearly show how they feel about a nondisabled potential buddy. Given this feeling of acceptance, in some cases the experience of sharing school activities may lead to the development of real friendships.

In fact, some adolescents may prove to be marvelously sensitive and enthusiastic advocates as well as friends. Students with disabilities may help these friends enrich their lives.

EXAMPLE I: Segregated School

The Green School, which serves students who have severe cognitive impairments as well as sensory and physical disabilities, has formed a partnership with a nearby high school. The instructional staff proposed such a relationship to their school principal and worked with her in developing a proposal to present to the principal of Brown County High School. The proposal included opportunities for high school students to meet with and learn about students with severe disabilities, through presentations by Green School teachers, films, and visits to the Green School. At the end of this period of exploration, those students who were willing to make a commitment to ongoing service during the next semester, were matched with a class or a student at the Green School.

The Brown County High School students engaged in a variety of activities with the Green School students. Some accompanied their "class" on various community experiences. Others served as one-to-one tutors to Green

School students on a variety of activities in the classroom and school. The high school students were encouraged to form particular relationships with one or two students whose company they enjoyed most, and who appeared to reciprocate this feeling. They were also encouraged to contribute ideas about possible activities at Green School, in the community, and at Brown County High School. Several Green School students attended a spring concert at the Brown County High School at the invitation and in the company of their companions from that school. The Brown County High School students, in turn, were invited to a picnic with Green School students and their families.

The two schools are now exploring ways of further developing this concept of a partnership between schools and relationships between typical students and students with severe disabilities. The teachers at the Green School feel that many more opportunities for ongoing shared experiences, informal as well as formal, are needed. They are thinking about some of the following processes: involving the Green School parents in identifying ways that they would like their children to participate with students at Brown County High School and in identifying ways to overcome hurdles to greater interaction; as well as involving Brown County High

School teachers in such planning. They are also thinking about identifying individual students who could participate in selected courses at Brown County High School with peer companions.

EXAMPLE II: Integrated High School

The Blue County High School serves a range of students including students who are blind, students with physical impairments, and students with both cognitive disabilities and sensory impairments. As these students are integrated into a multitude of school activities, all of the high school's students are used to having students with disabilities in their midst. In addition, there has been planned interaction between special education staff and other staff to ensure that everyone understands and is comfortable in interacting with students who have disabilities, and that all teachers include material about people with disabilities in their subject curriculum as appropriate. Moreover, adaptive equipment and furniture is available in the school to allow all students with disabilities to participate with ordinary students in such activities as computer instruction, shop, and gym. Planned interactions between students with disabilities and typical students include both formal and informal peer systems to support students with disabilities in regular classes and/or in special education classes.

The teacher of the class for students with both cognitive and sensory impairments encourages informal contacts in a variety of ways. On the door is a big sign saying: "Come In and Meet Us." The teacher makes arrangements individually with any student who wishes to find out more, observe, or work in the classroom. Students who do, find it congenial to work in the classroom and are encouraged to bring along any of their friends who might be similarly interested. Students are also invited to have lunch with the class whenever they feel like it, either in the cafeteria or at planned luncheons in the community. Some students from the special education class have developed real friendships with the nondisabled students who started as class volunteers. They now often eat with their friends, rather than their class, in the cafeteria, and have out-of-school contacts as well.

Perhaps the greatest advantage of the integrated school is that it provides the opportunity for more natural, informal, unstilted contacts to be made and to grow.

FOR MORE INFORMATION

Brown, L., Long, E., Udvari-Solner, A., Davis, L., Van Deventer, P., Ahlgren, C., Johnson, F., Gruenewald, L., & Jorgensen, J. (1989). The home school: Why students with severe intellectual disabilities must attend the schools of their brothers, sisters, friends, and neighbors. Journal of the Association for Persons with Severe Handicaps, 14(1), 1-7.

Grenot-Scheyer, M., Coots, J., & Falvey, M.A. (1989). Developing and fostering friendships. In M.A. Falvey (Ed.), Community-based curriculum: Instructional strategies for students with severe handicaps. (2nd. ed.). Baltimore, MD.: Paul H. Brookes.

Perske, R., & Perske, M. (1988). Circle of friends. Nashville, TN: Abingdon Press.

Taylor, S.J., & Bogden, R. (1987). On accepting relationships between people with mental retardation and nondisabled people: Towards an understanding of acceptance. Syracuse, NY: Center on Human Policy, Division of Special Education and Rehabilitation.

Turnbull, A.P., & Turnbull III, H.R. (1986). Families, *professionals, and exceptionality: A special partnership.* Columbus, OH: Merrill.

Turnbull, H.R., Turnbull, A., Bronicki, G.J., Summers, J.A., & Roeder-Gordon, C. (1989). *Disability and the family: A guide to decisions for adulthood.* Baltimore, MD: Paul H. Brookes.

SEXUALITY AND INTIMACY*

Sexuality involves more than the sexual anatomy and physiology of females and males, and the many possibilities for physical sexual expression. It also involves affective and psychosocial components such as affection, intimacy, and responsible sexual behavior. People with severe disabilities have sexual feelings and needs. They also have a right to express their sexuality.

Historically, the sexuality needs of individuals with both sensory and cognitive disabilities were not addressed. They were avoided. It was easier to bypass this subject entirely rather than negotiate the complexities of the moral and legal concerns involved. There was also a widespread belief that if the subject of sexuality was opened up, individuals with severe disabilities would become sexually aroused. Still others could not accept the idea of people with severe disabilities as sexual human beings.

The foundation of any approach to dealing with the sexuality of young persons with sensory and cognitive disabilities must include a recognition that most of these individuals have the same sexual needs as their nondisabled peers. Included among these, are the need for affection and intimacy. Sexuality is not identical with problem behavior.

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* Some ideas in this section were taken from a draft by Frederick Kaeser.

RELATING TO ADOLESCENTS WITH VISUAL OR DUAL SENSORY IMPAIRMENTS AND COGNITIVE DISABILITIES

In thinking about sexuality in students with visual or dual sensory impairments and cognitive disabilities one needs to look beyond the student himself to relationships between the adults who are in the student's environment, relationships between adults and students, and relationships between students.

The adults in a student's environment serve as models for student behavior. This holds true even when students have limited sensory and cognitive disabilities. In fact, adults are often surprised at how aware students with severe disabilities are of the interpersonal relationships around them. It is for this reason that instructional staff must be alert to the impact of their own behavior in relation to other adults in the school upon the behavior of their adolescent students.

> EXAMPLE: Robert (See Profile #3, pp. 13)
>
> Robert was in the hall when a male member of the instructional staff grabbed the backside of a female

instructor. The female instructor responded in a joking tone. A short time later, Robert touched the backside of this female instructor, who responded angrily and berated him for his action.

EXAMPLE: Sergio (See Profile #2, pp. 13)

Two female members of the instructional staff were joking and laughing in the classroom about the physical attributes of a new male member of the school staff. Sergio was nearby during this time and was not engaged in any instructional activity. He began to repeat some of the sexually referenced comments made by the female instructional staff members while touching his genital area.

Instructional staff members must also be alert to the effects of their behavior in relating to the students directly. Instructional staff commonly engage in close physical contact with their students in the process of assisting them. Tactile communication, walking sighted guide, providing hand-over-hand assistance, providing assistance in toileting and other personal care activities are examples of such contact. Because of the amount of assistance required by many of these students it is easy to overlook the fact that they are not children, and that physical contact may have different effects upon them than upon younger students. Instructional staff need to be aware of the emerging sexuality of their adolescent and young adult students, and let this awareness permeate their own actions and behavior.

While certain kinds of physical closeness are essential to the instructional process, even those contacts need to be examined carefully. There are other forms of physical contact that are not essential to the instructional process and that may be eliminated or modified.

> EXAMPLE: Maria (See Profile #6, pp. 15)
>
> Maria frequently expresses affection to those around her. She has taken to sitting on the lap of a male assistant teacher in her class and hugging him while she does so. The male instructor responds by hugging Maria back. When Maria is finally moved off his lap she generally goes to the window and engages in agitated finger flicking (self-stimulatory behavior).
>
> EXAMPLE: Robert (See Profile # 3, pp. 13)
>
> Robert's teacher is an attractive young woman who frequently wears snug sweaters and shirts with several buttons left undone. Although Robert is usually withdrawn, he sometimes follows his teacher around the room seeking close physical contact with her. When he is in close contact, he often pats her on the shoulder or massages her arm.

The development of male/female relationships is a normal aspect of adolescent development. One may frequently notice young men and women holding hands, hugging, and kissing in various school settings. There is no reason to expect that students with severe disabilities will not have the same feelings and needs as their nondisabled peers. Thus, budding relationships should not be viewed as inappropriate or maladaptive. Instructional staff should not interfere with behavior reflective of budding relationships unless there are clearly noticeable undesirable effects, e.g., one student seeks a relationship that is not reciprocally desired, or students are kissing at a community worksite and not attending to their jobs.

PRIVACY

As children move toward adolescence it becomes age appropriate for them to want more privacy and for adults to provide them with greater privacy. This is equally true for young people with and without severe disabilities. Providing such privacy becomes a more complex process with individuals who have visual or dual sensory impairments and cognitive disabilities. Some of these individuals may need a great deal of physical assistance in such activities as dressing, toileting, and menstrual care. The challenge for instructional staff is providing the physical assistance needed with a maximum of age appropriate privacy.

Below are some questions you might want to ask to assess how well the privacy needs of students are being met.

- Do adolescent students use toileting facilities that are separate from those used by younger students? (If not, why not? What can be done to provide toileting facilities that are more physically (and socially) appropriate for adolescents?)
- Is toileting conducted as a group activity? (If so, why? Do all these students need to use the toileting facilities at the same time? Do they all need supervision in using toileting facilities?)
- How is privacy provided for an adolescent student who needs an adult with him in the toilet stall? (Is the larger, accessible stall used so that the door can be kept closed? Is there an effort to minimize the number of different staff members who assist a particular student? Has an effort been made to match the gender of staff members to the student's gender when students need assistance or instruction with toileting, dressing, and personal hygiene?)
- Where is the instruction and assistance in personal hygiene provided? (If such instruction is provided in the classroom, why? Could it be provided in a

more appropriate place? If this is not possible, how is privacy provided in the classroom?)

EXAMPLE: Joanna (See Profile #5, pp. 15)
Joanna needs assistance with toileting and menstrual care. Ms. M., one of the teacher assistants for Joanna's class, is the person who typically assists Joanna with these activities. When Ms. M is absent or otherwise unavailable, Joanna's teacher works with Joanna herself. Ms. M was selected because she appears to be Joanna's favorite member of the instructional staff. Although another teacher assistant could have been used as a back-up person, the teacher decided to assume this role herself. She felt she worked better with Joanna than did the other teacher assistant.

When Joanna first came to her school there was no toilet stall that was wheelchair accessible. As it was expected to be months before a stall would be modified, this presented a real challenge for the provision of privacy. A temporary solution was agreed upon whereby the door was removed and replaced with an opaque curtain. However, as the stall was not wide enough, Joanna had to be helped out of her chair before entering the stall.

One of Joanna's IEP/ITP goals, requested by her mother, was that Joanna assist in her own menstrual care. Joanna's mother felt that this is an adult activity in which her daughter should participate. It was agreed that Joanna would be taught to remove her used sanitary napkins and replace them with new ones. The teacher worked with Ms. M. on an instructional strategy for helping Joanna acquire these skills. This instructional strategy was implemented during Joanna's menstrual periods.

MASTURBATION

Sometimes instructional staff seem to forget that masturbation is not something bad that is only engaged in by students with severe disabilities. Masturbation is a normal and widely practiced activity. However, it is not usually practiced in public places. Some students with severe disabilities do not make this distinction between public places and appropriate private places. This often leads to trouble in school and in community settings. Students need to learn to make this distinction.

In order to facilitate this learning, teachers must begin to find out more about the individual student's behavior. Some of the questions to be addressed are:

- When does the student masturbate? How often?

During what activities, and settings, in what parts of the day, for how long?

- Was this behavior noted in the school in previous years or does this appear to be a relatively new occurrence?
- Can the student's behavior be readily redirected from masturbation to another activity?

To answer these questions, it is appropriate to institute behavioral data collection procedures (see section on "An Approach to Challenging Behavior", pp. 157-175), while also checking student records and talking to staff who had worked with the student in previous school years.

The appropriate approach for dealing with masturbation will differ with the outcomes of the above probes. In some cases students can easily be taught that public areas of the school like the classroom, lunchroom, and gymnasium are not appropriate places for masturbation, and when masturbation occurs in an inappropriate place the student can easily be redirected to another activity. Other students will not be readily taught and/or redirected. For these students, two approaches are possible. Some schools may choose, after consulting with a student's parents, to direct the student to a closed stall in the bathroom when it appears that masturbation cannot be stopped. If such a decision is made, the student's masturbation in a closed stall is tolerated provided that it does remain private, and does not extend beyond a reasonable period of time. Another approach, which may be pursued instead of or in addition to the above, is to direct the student's parents to an agency with expertise in this area. Masturbation cannot be thought of only in terms of a 9 to 3 school day, and schools have restricted fields of freedom in this area. Some students will need more assistance in this area than can be provided by the school. What should be kept in mind is that an approach that humiliates the student is counter productive.

Many agencies that serve adults with developmental disabilities have programs and staff with expertise in dealing with various aspects of sexuality, or can direct schools and/or parents to such resources. Some agencies that may be contacted for information are listed at the end of this section.

SEXUAL ABUSE

Young adults with severe disabilities are particularly vulnerable to and defenseless against sexual abuse. In recent years there has been growing awareness of the need to educate young adults with severe disabilities about protecting themselves from sexual abuse. When it is possible, students should be taught how to protect themselves from sexual abuse, i.e., how to identify sexual abuse, how to respond assertively, and how to seek assistance. When students have visual or dual sensory impairments and cognitive disabilities, the achievement of this goal may be very difficult. Some of the concepts and/or behaviors involved in preventing sexual abuse -- public and private body parts, differentiation between helpful physical assistance and inappropriate physical touching or contact, how and when to summon assistance -- may be beyond the capabilities of some of these young adults. For example, Joanna (See Profile #5, pp. 15) needs assistance with toileting and menstrual care. In order to be prepared to prevent herself from being sexually abused, Joanna must learn to distinguish this assistance from fondling of her genital area for sexual purposes. Furthermore, because Joanna has no speech and poor hand control, she will not be able to push anyone away, escape, say "no", or call out for help. An instructional program in sex abuse prevention for Joanna would have to include experiences designed to help Joanna differentiate between appropriate and inappropriate physical contacts. This program would also have to include teaching Joanna to use augmentative means, e.g., a switch attached to her body, to call for assistance when she is being touched inappropriately, if such a communication system is not already in place.

Sources of Information About Instructional Materials and Resource Persons

SIECUS (The Sex Information and Education Council of the U.S., Inc.)
80 Fifth Avenue, Suite 801-2
New York, New York 10011

Planned Parenthood of Southeastern Pennsylvania
1144 Locust Street
Philadelphia, PA 19107
(or a local affiliate of Planned Parenthood)

James Stanfield Publishing Company
P.O. Box 1995 E
Santa Monica, CA 90406
(Catalogue of multimedia instructional materials)

Local affiliates of the Association for Retarded Citizens and United Cerebral Palsy

Other local agencies serving adults with severe disabilities in day programming and/or residential services

ADAPTATIONS

Some students with visual or dual sensory impairments and cognitive disabilities may require their own special adaptations to enable them to participate in activities.

Adaptations may mean:

- o Creating or modifying materials, or using modified materials already available, e.g., adding various materials to pictures to make the pictures easier to identify; using an adapted version of dominoes available from the American Foundation for the Blind.
- o Modifying skill sequences, cues, instructions, and rules, e.g., including a smaller number of dominoes in the game so as to simplify the visual array.
- o Utilizing personal assistance in carrying out a response, e.g., having the student with poor grasping skills point to the appropriate domino with this student's "buddy" doing the actual moving of the dominoes.

All of the above types of adaptations can expand the opportunities of students to engage in school and community activities.

When appropriate community activities have been identified, the teacher needs to examine:

- What steps in these activities will present difficulties for individual students?
- What alternative strategies for performing this activity are possible for these particular students?

In selecting specific adaptations or modifications, the teacher needs to consider:

- Is the adaptation age-appropriate and acceptable to the student and his/her parents?
- Can the adaptation be used in multiple settings?
- Can the adaptation be applied to other activities?

Some adaptations are only needed temporarily during the instructional process. It may be possible to fade or discontinue their use as the student masters the activity. However, some adaptations are permanent. They are not only needed during the instructional process but may be needed by an individual student on a permanent basis for participating in an activity. For example, a student may need some verbal or physical prompting while he or she is in the process of learning the steps in making juice. This personal assistance may no longer be needed once the process has been mastered.

However, if the student has difficulty with hand control, some personal assistance may be needed on a permanent basis with some steps in this activity.

A chart of some of the different types of adaptations described in this curriculum handbook, and the situations for which they were used is on pages 219 and 220.

FOR MORE INFORMATION

Baumgart, D., Brown, L., Pumpian, I., Nisbet, J., Ford, A., Sweet, M., Messina, R., & Schroeder, J. (1982). Principle of partial participation and individualized adaptations in educational programs for severely handicapped students. _The Journal of The Association for Persons with Severe Handicaps_, _8_, 17-27.

Falvey, M.A.(1989). _Community-based curriculum_: _Instructional strategies for students with severe handicaps_. (2nd. ed.). Baltimore, MD: Paul H. Brookes.

Fredericks, H.D.B., Heyer, M., Makohon, L., Bunse, C., Buckley, J., Trecker, N., Egan, I., Johnson-Dorn, N., Miller-Case, V., Fay, M.L., Paeth, M.A, Alrick, G., & Samples, B. (1983). _Teaching skills to adolescents and adults with severe handicaps: Dressing and the selection_ and care of clothing with adaptations for the sensory impaired. Monmouth, Oregon: Teaching Research.

Fredericks, H.D.B., Makohon, L., Bunse, C., Heyer, M., Buckley, J., Alrick, G., & Samples, B. (1980). The teaching research curriculum for handicapped adolescents and adults: Personal hygiene with adaptations for the sensory impaired. Monmouth, Oregon: Teaching Research.

Snell, M.E., & Browder, D.M. (1986). Community-referenced instruction: Research and issues. The Journal of the Association for Persons with Severe Handicaps, 11(1), 1-11.

ADAPTATIONS

ACTIVITY	DIFFICULTY	MATERIALS	CUES/INSTRUCTIONS/RULES SKILL SEQUENCES	PERSONAL ASSISTANCE
EXAMPLE: Maria (See Profile #6, pp. 15)				
Choosing a breakfast cereal	Limited communication skills		Two bowls, each with a small amount of different cereals, are placed on the table before Maria. She tastes each and keeps the one she prefers.	
Choosing a classmate to shop with	Limited communication skills	Display board with tangible symbols representing classmates	Maria identifies the tangible symbol of the classmate she wants to shop with.	
EXAMPLE: Joanna (See Profile #5, pp. 15)				
Spreading jelly on bread	Poor hand control; no usable vision; unfamiliarity with procedure	Adapted spoon and splint		Physical guidance in proceeding through steps of activity.

ACTIVITY	DIFFICULTY	POSSIBLE ADAPTATIONS		
		MATERIALS	CUES/INSTRUCTIONS/RULES SKILL SEQUENCES	PERSONAL ASSISTANCE
EXAMPLE: Ed (See Profile #1, pp. 12)				
Pouring juice into cups	Misses cup	Use a larger cup. Use a cup that contrasts in color with background. Add a lamp to that area of the room to improve the lighting or move the activity to a better lit area of the room.	Verbal cue that directs Ed's attention to the area just below the rim of the cup. Cue the student to place first joint of index finger into cup and stop pouring when liquid reaches tip of finger.	

PROMPTING AS AN INSTRUCTIONAL STRATEGY

Prompting is a strategy of long standing in teaching new skills to students with severe disabilities. Prompting refers to temporary assistance designed to increase the likelihood that a student will perform a desired behavior or a close approximation of that behavior. Prompts may take a variety of forms, including verbal instructions, modeling, verbal instruction plus modeling, physical assistance, and verbal instruction plus physical assistance. For students who use modes of communication other than speech, e.g., signs or tangible symbols, these modes should be used (along with speech) in the prompting process.

One usually thinks of prompting in terms of hierarchies of types and degrees of assistance, with speech (or substitute communication systems) as a higher level than prompts involving modeling or physical assistance. However, this may not be the most helpful way of thinking about prompts in regard to students with severe disabilities. Modeling and/or physical assistance may be a more effective approach to teaching an activity to some students with severe difficulties in communication; and while reducing reliance upon prompts (fading) is an appropriate goal, some students with sensory and/or motor impairments may need on-going physical assistance in order to participate in some activities. This may be thought of as a support rather than prompting. Individualized adaptations may reduce the need for physical assistance in some activities. However, partial participation, even with physical assistance, is a goal whenever independent participation in appropriate activities is not possible.

Below is an example of a student who needs a high level of physical prompting initially, and may always need some physical assistance in many activities.

EXAMPLE: Joanna (See Profile #5, p.15)

One of Joanna's IEP goals is to become more independent in preparing her own snacks. She likes bread with jelly. While Joanna's hand control is somewhat impaired, the teacher feels that a significant part of the reason why Joanna doesn't participate more in food preparation is her lack of experience and instruction. As Joanna has no usable vision or hearing, verbalinstruction by itself is not appropriate. Nor is most modeling, which usually depends upon vision. Joanna's teacher begins by doing a task analysis of preparing bread with jelly, and then uses it in instructing Joanna. The teacher first presents Joanna with a tangible symbol for meal or snack, e.g., a spoon or fork. Once at the table, Joanna's dominant hand is lightly guided to the plate in front of her.* A slice of bread is on it. After Joanna has had time to tactually identify the bread, the teacher lightly guides Joanna's hand to the small jelly dish near her plate, and gives Joanna time to explore and identify the jelly. Then, she lightly guides Joanna's hand to her mouth, so that Joanna can taste the jelly. Joanna is next physically assisted in picking up her spoon, bringing it to the jelly dish, scooping up some jelly, and placing it on the bread. Joanna uses an adapted spoon with a wider handle that facilitates grasping (an example of an equipment adaptation). Then Joanna is guided lightly, as she picks up her adapted knife and begins to spread the jelly.

After several such experiences the teacher notices that Joanna is having much difficulty scooping up the jelly and bringing it to the bread, most likely because of her visual and motoric impairments. As this step appears to be the most difficult in the process for Joanna, the teacher decides to provide extra practice on it (mass practice). This can be done by giving Joanna the job of scooping up jelly and placing it on the bread for her classmates during snack. If this additional practice does not prove to be successful, Joanna's teacher will continue to provide assistance with this step in the task (partial participation), while other assistance is gradually faded.

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* If the teacher is familiar with touch signing, she/he should touch sign the significant events in this process.

In planning how to fade physical assistance, the teacher tries to drop those physical prompts for activities that can be cued naturally. For example, after Joanna has learned to recognize the tangible symbol for bread and jelly, she immediately searches for her plate and bread after sitting down at the table. The teacher no longer has to guide Joanna's hand to her plate physically. When the teacher puts Joanna's hand on the spoon this serves as a cue for Joanna to pick up the spoon, which she attempts to do without further prompting. Eventually, the teacher will delay putting Joanna's hand on the spoon, to determine if feeling the bread on the plate will serve as a sufficient cue to move Joanna to search for the spoon.

The teacher also decides to ask the occupational therapist (O.T.) who works with Joanna to observe what is happening, and perhaps suggest other adaptations that might be useful in reducing Joanna's need for physical assistance in this activity. The teacher plans to ask the O.T. whether a hand splint might give Joanna better control when using the spoon.

The teacher also begins to think about tangible symbols for bread and jelly so that Joanna may acquire greater independence in communicating this snack preference. In addition, the teacher wants Joanna to be able to prepare this snack in a way that will not be viewed as inappropriate in community settings. Thus, she hopes that by giving Joanna a way to understand what is on the table, the step of having Joanna touch the jelly with her hand can eventually be eliminated.

SUMMARY

The above example attempted to illustrate how prompting must be considered in combination with personal preference, task analysis, equipment adaptations, mass practice, and the concept of partial participation in assisting students to engage in functional activities.

FOR MORE INFORMATION

Snell, M.E. and Browder, D.M. (1986). Community referenced instruction: Research and issues. The Association for Persons with Severe Handicaps, 11(1), 1-11.

ACTIVITY SELECTION: WHAT TO TEACH?

The process of activity selection, i.e., what to teach, can be interpreted in two ways: What is the "universe" of appropriate activities for students with visual or dual sensory impairments and cognitive disabilities? What activities represent appropriate instruction for an individual student? Each of these issues will be discussed.

THE "UNIVERSE" OF APPROPRIATE ACTIVITIES

The best current thinking about the universe or range of appropriate activities for students with severe disabilities is that it encompasses various domains of functional activities within community living. These domains may be organized in different ways. One common way of delineating them is: domestic, recreation and leisure, vocational, and community. Another way of organizing these domains is: personal management, work, and leisure (Wilcox and Bellamy, 1987). Whatever the way of delineating these domains, they usually include the following groups of activities: eating and food preparation, dressing, grooming, personal hygiene, health, safety, housekeeping, shopping, use of other community programs and services, travel, participation in sports and exercise, games and crafts, social events, classroom and school jobs, and community-based vocational experiences.

As this curriculum is designed for students with visual or dual sensory impairments, it is relevant to examine the effects of such sensory impairments upon the definition of appropriate activities. Parents and professionals may be inclined to believe that the universe of appropriate activities is severely restricted due to this sensory impairment. While it is true that some activities may lose their functional value in the case of individual students with specific losses, many more activities can be adapted in ways that will make them functional for a particular student. For example, bicycling in the community may appear impossible for a student who has dual sensory impairments. However, riding on the back seat of a tandem bike may be a wonderful experience for such a student.

Any activities that promote the participation, functional competence, and/or productivity of adolescents with severe disabilities belong in the universe of appropriate activities.

APPROPRIATE ACTIVITIES FOR INDIVIDUALS

The definition of appropriate activities for individual students from within the universe just described, is shaped by three sources: parent input, professional input, and student preferences. Parents can provide information about their child's preferences, styles, and out-of-school activities. Parents can also provide information about their goals for their son or daughter. Professionals can provide input about these same issues from a different viewpoint on the basis of their special expertise and the student's school performance. When given the opportunity, the student can communicate or demonstrate behaviorally his or her choice of preferred activities. The points of intersection or overlap of these three sources of input represent appropriate activities. (See the section on Planning for Students for further discussion of this issue, pp. 24-32).

ACTIVITY SELECTION GUIDELINES*

Questions listed below may be used as guidelines in selecting the most appropriate activities for the instruction of students:

VALUE-BASED CONSIDERATIONS

1. AGE-APPROPRIATENESS. Is this activity something in which a nondisabled peer would be engaged?
2. PREFERENCE. Is the activity liked by the student?
3. SOCIAL ACCEPTANCE. Will performing this activity increase the student's social acceptance?
4. FAMILY VALUES. Would this be chosen by family members?
5. UTILIZATION. Will the student have frequent opportunities to engage in this activity in home, school, and/or community?
6. SOCIAL PARTICIPATION. Will this activity increase the student's participation in home, school, and/or community events?
7. INDEPENDENCE. Will this activity promote independence and/or non-restrictive life alternatives?

ENVIRONMENTAL CONSIDERATIONS

8. AVAILABILITY. Are there specific environments available for the student in his or her community to engage in this activity?
9. ACCESSIBILITY. Are specific environments accessible for the student in his or her community or can they be made accessible?
10. SAFETY. Is it possible to ensure that the environments and conditions under which the activity would be performed could be made reasonably safe?
11. TRAINING ACCESSIBILITY. Are environments accessible for teaching during school hours?

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* Adapted from M.A. Falvey (1989).

EXAMPLES OF RECREATION AND LEISURE ACTIVITIES

This section offers a sampling of recreation and leisure activities that can be adapted for use with students who have visual or dual sensory impairments and cognitive disabilities. Some games and materials for crafts are available commercially with adaptations for visual impairments. (See The American Foundation for the Blind, catalogue and Independent Living Aids catalogue in Appendix C.) Some of these games are likely to need further modification to meet the cognitive needs of individuals. Below are some illustrations of these adaptations.

Cards

Adapted playing cards are available for purchase. They come in various combinations of size of cards and size of print. (They are also available with Braille embossing.) Uno, a popular card game, may be purchased in most toy stores. This game often needs no modification in appearance because of its bright colors and contrast. (A braille edition is available. See Appendix C, pp. 254.)

When needed, card games can be simplified. This can be done in a number of ways. Reducing the diversity of cards, e.g., eliminating one of the two red suits and one of the two black suits, or using only the four or five most distinguishable cards, will enable many individuals to participate in a variety of card games. Another adaptation might involve making the numbers and symbols tactually discernable. This can be done by using a product like "Hi Marks" or puff paint (See catalogues in Appendix C), or by adding glue plus tactually varied materials. For those individuals for whom standard cards are too abstract, individually tailored cards using concrete, tactually discriminable cues can be made. These custom-made cards might be designed for use in simplified versions of standard card games.

Dominoes

Dominoes, because of the contrast of white dots against a black background, are usable by many individuals with visual impairments. However, dominoes with raised dots are also available for those individuals who need tactile cues (see Appendix C). When needed, the game of dominoes can be simplified. Initially, to reduce the complexity of the game, the number of tiles and the variety of configurations of dots can be restricted. The standard number of tiles in a dominoes game can be maintained, while reducing the variety of configurations of dots, by purchasing more than one set of dominoes.

Once a student has learned to play the game with a reduced number and/or variety of tiles, the teacher can gradually move away from these initial adaptations as appropriate.

Teachers are often tempted to make games like dominoes because they can be custom-made to fit students' needs and because they can be produced very cheaply. However students may not automatically generalize their competence in playing a "home-made" version of dominoes to playing with standard domino tiles. They may need to be taught this game anew if they are to participate in it with peers and adults in the community.

Knock Hockey

This game can be adapted both for students with some useable vision, and for students without usable vision. To facilitate use by students with low vision, the puck, sticks, border and edges of the goal openings would be painted in a strong color(s) that is in contrast to the floor of the knock hockey board. To simplify the task of getting the puck through the opening in the opposing player's side of the board, the barrier that prevents direct entry would be removed. At a later point, a smaller (cut-down) version of the block that serves as the barrier could be returned to the board.

For the student who is blind and can orient to a sound source, "mini-beepers" could be attached to the edge of the game board above the openings. (Mini-beepers are available from Flaghouse, Inc. See Products List in Appendix C.) Thus, the students would hit the puck toward the sound emitted by the beeper. A bell could be placed in the net into which the puck falls when it is hit through the opening, so that the student who has hearing will know when he/she has achieved a goal.

Other Table Games

Other adapted table games that are available commercially include: Othello, Checkers, Tic Tac Toe, Connect Four, and Chinese Checkers (see catalogue listing in Appendix C). The adaptations available include either the addition of tactile cues or the enhancement of visual cues. The value and attractiveness of these (and other) games is that they are widely available outside the school community, and can be used as a medium of social interaction.

Arcade Games

Arcade games are available in most communities and are widely used by individuals of all ages. Many arcade games, including those which involve body movement, are enjoyable for individuals with residual hearing and/or vision because they are rich in both auditory and visual feedback. In some cases, no adaptations are needed. However, it may be desirable to increase the volume of a game's auditory feedback. One way this can be done is by manipulating the machine's volume control mechanism. This would involve the cooperation of the person responsible for the arcade game. Another way of increasing the volume for the student is to provide the student with an FM system. By placing the microphone from this system near the source of sound, only the desired auditory information would be amplified, thus masking extraneous environmental noise. When auditory feedback is not meaningful because individual players are deaf, minor adjustments can be made to enrich the visual feedback of a given game. This, too, would involve cooperation from the person responsible for the arcade game. In pinball, for example, either different color lights can be used inside the game or strobe lights can be used. Care must be given, however, to avoid these games with individuals for whom the sensory information would be overstimulating and therefore stress inducing.

Crafts

Hook-rugs, weaving, wood projects, tile projects, leather work, paper mache molds, clay work, yarn/wire projects, sewing, textured painting, building models, macrame, string-art are only some of the possible activities which are accessible to someone who has visual or dual sensory impairments and cognitive disabilities. Most of these activities are rich in tactual information and can be done by students with no vision.

In order to help the student come to know whether she would enjoy any one of these activities, care must be taken in introducing them to the student. Initial projects should be ones that can be completed in one session. Individually tailored procedures, appropriate instruction, and the use of partial participation when necessary will maximize the potential value of the activity for the student. Selection of particular craft activities for individual students should be based upon student interests or preferences, either in the activity itself, the product of this activity, or both. With this in mind, it would not make sense for the student who does not like to get her hands messy to engage in clay or glue based activities. The student who enjoys working with plants could be engaged in a variety of projects related to making plant holders or art work revolving around the theme of plants.

Environmental issues such as how and where materials are stored and labeled, lighting, the availability of a magnifier, and noise levels are important considerations when working with individuals who have sensory impairments. The area in which craft activities will be taught and undertaken is most accessible to an individual with sensory impairments when it is well lit, free of extraneous noise and can be negotiated with relative ease after orientation and mobility training is provided. Ideally, materials should remain in the same location and should be stored in containers which are tactually labeled with a sample item or with braille.

Some simple adaptations that will make crafts more appropriate for students with visual impairments involve the addition of tactile cues. For example, blind students can create tile art products if the pattern or scene to be depicted has its sections marked off by raised borders. This will provide additional information for the individual with a visual impairment, who can then choose colors/materials for the project's respective sections.

> EXAMPLE: Robert and Joanna (Profiles #3 & #5, pp. 13 & 15). Robert and Joanna have been working on an ongoing art project for the past week. Their teacher wanted to design a project which would have value to both students so as to sustain their involvement. She decided to depict, via varied tactually rich materials, the local animal shelter's visit to the classroom, an event favored by both students.
>
> In developing this project, the teacher first drew a simple scene comprised of Robert, Joanna, the teacher, the worker from the animal shelter and a puppy seated on the classroom floor. Next, the teacher outlined each figure with a different material so that each figure would be tactually distinct. The outline of the sketch of Robert was bordered

in smooth bright red yarn of medium thickness; the figure depicting Joanna was bordered in pipe-cleaners; the figure of the teacher was bordered by elastic bands, cut and placed together end-to-end; the puppy was outlined by a thick, fuzzy yarn. The border of the room was established using long, thin wood sticks.

This project was first introduced to Robert and Joanna during the latter part of the visit from the animal shelter's worker and the puppy. Since Joanna uses tangible symbols to assist her in identifying various people with whom she interacts, her teacher used these same symbols to help Joanna identify the figures depicted in the art project. The teacher attempted to do this by placing each symbol inside the appropriate figure. Robert, using his vision, sign language, and communication book, was clearly able to connect the figures depicted with the actual people and event represented.

In an effort to foster preferences and decision making in each student, the teacher structured the project so that there were several opportunities for choice making, e.g., selection of figures that each student would work on and selection of materials to be used. In working with Joanna her teacher placed the board with outlined figures in front of Joanna, gave Joanna the symbol for "new work", and gave

Joanna the opportunity to tactually explore the surface. After Joanna did some initial but incomplete tactile exploration, the teacher signed "more", and guided Joanna's hand to the figures she had missed. During this process, the teacher provided ample time for Joanna to thoroughly explore each symbol. After this, the teacher waits to see if Joanna reaches for a particular symbol. When Joanna reaches for the symbol representing the puppy, her teacher is not at all surprised as Joanna consistently and enthusiastically attended to the puppy during the visits from the shelter. Then the teacher repeats this same process with Joanna in assisting her to select the material to be used in completing the figure of the puppy. Robert, who very clearly liked the worker from the shelter, picks up the symbol depicting this person, and begins to jump up and down in his excitement over it. Robert's teacher smiles at him, signs, "your friend", "fine", and directs him to the bins that hold the project materials.

The project was set up at a work table which was low enough to accommodate Joanna's wheelchair and allow her to comfortably reach all materials. Robert's seat was located near a low vision lamp that he was able to adjust to minimize glare created by the materials being used. For example, the intensity of the light was lowered when Robert worked with ceramic tiles, and increased when he worked with felt. A small, free-standing mounted magnifier was available for Robert to place above the area on which he was working. For most of this project, Robert did not choose to use the magnifier. However, he was expected to bring the magnifier to the work table, as this expectation existed throughout Robert's day.

The project was quite time and energy intensive, as both Robert and Joanna needed assistance in working on it. Robert frequently sought reassurance from his teacher that his work was progressing well, while Joanna frequently needed varying levels of physical support. However, this activity was enjoyable to both students, and their teacher was able to use it to strengthen each student's ability to make decisions and express preferences.

Dance

Dancing can have many benefits for students of transition age. It can provide healthful exercise; serve as an outlet for physical energy; allow for increased social interaction; and be engaged in across many settings. Partnered dancing, e.g., square dance or a basic four step (foxtrot), is ideal for individuals who have visual or dual sensory impairments and cognitive disabilities because it allows them to receive physical support and guidance in a normalized fashion.

Adaptive equipment exists that can enhance an individual's ability to hear music or feel its vibrations. "FM units," tactile communicators, and audio loops are examples of such adaptive aids. (See Appendix C for Products List.) An audiologist or a speech and language specialist should be involved in assessing the appropriateness of auditory aids.

Low Impact Aerobic Dance Exercise

Aerobic exercise is an age-appropriate activity that can be of great benefit to students who may lead sedentary life styles. It is, however, usually more meaningful for those students who have some usable vision or hearing. Before introducing such a program, the teacher must ascertain that there are no medical contraindications for such activity; for example, some students with specific types of medical problems may not be allowed to participate in such vigorous activity.

In introducing this activity, consideration should be given to each student's primary source for receiving sensory information. For the student who is blind, instruction will include both verbal directions and physical guidance. Initial instruction should focus on simple movements occurring in a small space. Over time, the student may gain the confidence to expand to more complex physical routines in larger areas. Emphasis should be placed on matching movements to the music.

For the student who is deaf, learning the movements and routines is best facilitated by visual demonstrations accompanied by physical guidance when needed. In order for this student to understand that movements are matched to music, the student should watch the demonstration while positioned in contact with the source of the music, so that he can feel the vibrations being generated. It may be advisable to repeat this demonstration multiple times before expecting the student to try to match his movements to music.

For those students who have no usable vision or hearing, but who are tactually receptive, it may be possible to make this activity meaningful by allowing the student to position himself in close proximity to the source of music, e.g., radio, sound speaker or drum, thus feeling the vibrations of the music. This should be repeated multiple times. After this, an instructor would physically guide the student through the movements while the student maintains a position close to the source of sound.

Adaptive aids can be used to enhance the participation of some students in this activity. (See prior section on "Dance".)

Sports

Before engaging students in any vigorous sports, it is imperative to make sure that such activities are consistent with each students health status.

Groups sports such as dodgeball, basketball, football, and volleyball can be made more accessible in a variety of ways. The playing area can be more clearly demarcated by enclosing it within soft fencing, by painting the border in a color that contrasts strongly with the interior of the playing area, or by lining the border with some type of raised material such as rubber. Brightly colored balls or sound emitting balls can be used. Students with visual impairments can be paired with sighted peers when playing any of these games. Rules of the game can be modified to reduce complexity, as appropriate.

Activities such as swimming, weight lifting, and bicycling (stationary and tandem bicycles) can be taught to many students with visual or dual sensory impairments and cognitive disabilities. Students need to be helped to master the skills in each activity. Some students will need orientation and mobility training to assist them in getting to and from activity areas. Students may also need tactual markings on equipment, settings, and switches.

Although schools don't typically become involved with roller skating or ice skating, and although some people would not think of these activities as options for individuals with sensory and cognitive impairments, these activities have rich possibilities for normative leisure experiences. Skating rinks exist in most communities, and the partnering that would take place between a sighted individual and the student with sensory and cognitive impairments would be quite typical since people frequently skate in pairs. The process of introducing these activities to students needs to be carefully thought out, and sufficient time needs to be devoted to preparing students for this new experience. This process should include visits to a skating rink and opportunities to handle skates and try them on while there. Just as with many newly introduced activities, initial instructional periods may need to be of short duration. Extensive support may be needed. Adjustments for safety purposes, such as double blades on ice skates, may be desirable.

SUMMARY

When discussing integrated, community-based leisure opportunities for individuals with both sensory and cognitive impairments, the need for a support person cannot be overlooked. In the best of situations such a support person will be needed only during the initial phases of a new activity, or an activity that is being pursued in a new environment. In this, the best of situations, the support person will assist the individual with disabilities to gain familiarity with the environment in which the activity takes place (e.g., provide orientation and mobility training), and will assist the individual during the activity as needed until natural sources of support (e.g., friendships) develop. However, in other situations, support will need to be ongoing to enable an individual with both sensory and cognitive disabilities to participate in community-based, integrated leisure opportunities.

FOR MORE INFORMATION

Falvey, M.A. (1986). Community-based curriculum: instructional strategies for students with severe handicaps. Baltimore, MD: Paul H. Brookes.

Wilcox, B., & Bellamy, G.T. (1987). A comprehensive guide to the activities catalog: An alternative curriculum for youth and adults with severe disabilities. Baltimore, MD: Paul H. Brookes.

Wilcox, B., & Bellamy, G.T. (1987). The activities catalog: an alternative curriculum for youth and adults with severe disabilities. Baltimore, MD: Paul H. Brookes.

APPENDIX A

REFERENCE LIST

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Baumgart, D., Brown, L., Pumpian, I., Nisbet, J., Ford, A., Sweet, M., Messina, R., & Schroeder, J. (1982). Principle of partial participation and individualized adaptations in educational programs for severely handicapped students. The Journal of the Association for persons with Severe Handicaps, 7, 17-27.

Bellamy, G.T., Rhodes, L.E., Mank, D.M., & Albin, J.A. (1988). Supported employment: A community implementation guide. Baltimore, MD: Paul H. Brookes.

Browder, D. (1987). Assessment of individuals with severe handicaps: An applied behavior approach to life skills assessment. Baltimore, MD: Paul H. Brookes.

Brown, L., Branston, M.B., Hamre-Nietupski, S., Pumpian, I., Certo, N., & Gruenewald, L. (1979). A strategy for developing chronological age-appropriate and functional curricular content for severely handicapped adolescents and young adults. Journal of Special Education, 13(1), 81-90.

Brown, L., Nietupski, J., & Hamre-Nietupski, S. (1976). The criterion of ultimate functioning. In M.A. Thomas (ed.), Hey, don't forget about me!: Education's investment in the severely, profoundly and multiply handicapped. Reston, VA: CEC Information Center.

Donnellan, A.N., LaVigna, G.W., Negri-Shoultz, N., & Fassbender, L.L. (1988). Progress without punishment: Effective approaches for learners with behavior problems. New York: Teacher's College.

Durand, V.M., & Crimmins, A.B. (1988). Identifying variables maintaining self-injurious behaviors. Journal of Autism and Developmental Disorders, 18(1), 99-117.

Durand, V.M., & Crimmins, D.B. (1988). The motivation assessment scale: An administration manual. Albany, New York: The University at Albany, State University of New York.

Erber, N. (1982). Auditory training. Washington, D.C.: The Alexander Graham Bell Association for the Deaf.

Evans, I.M., & Meyer, L.H. (1985). An educative approach to behavior problems: A practical decision model for interventions with severely handicapped learners. Baltimore, MD: Paul H. Brookes.

Falvey, M.A. (1989). Community-based curriculum: Instructional strategies for students with severe handicaps. (2nd. Ed.). Baltimore, MD: Paul H. Brookes.

Ford, A., Dempsey, P., Black, J., Davern, L., Schnorr, R., & Meyer, L. (1987). Parent input: Priority goals. In The Syracuse curriculum-referenced curriculum guide for students with moderate and severe handicaps. (pp. 325-337). Syracuse, NY: Syracuse University.

Fredericks, H.D.B., Heyer, M., Makohon, L., Bunse, C., Buckley, J., Trecker, N., Egan, I., Johnson-Dorn, N., Miller-Case, V., Fay, M.L., Paeth, M.A., Alrick, G., & Samples, B. (1983). Teaching skills to adolescents and adults with severe handicaps: Dressing and the selection and care of clothing with adaptations for the sensory impaired. Monmouth, OR: Teaching Research.

Fredericks, H.D.B., Makohon, L., Bunse, C., Heyer, M., Buckley, J., Alrick, G., & Samples, B. (1980). The teaching research curriculum for handicapped adolescents and adults: Personal hygiene with adaptations for sensory impaired. Monmouth, OR: Teaching Research.

Gee, K., Harrell, R., & Rosenberg, R. (1987). Teaching orientation and mobility skills within and across natural opportunities for travel: A model designed for learners with multiple severe disabilities. In L. Goetz, D. Guess, K. Stremel-Campbell (Eds.), Innovative program design for individuals with dual sensory impairments. (pp. 127-157). Baltimore, MD: Paul H. Brookes.

Goetz, L., & Gee, K. (1987). Functional vision programming: A model for teaching visual behaviors in natural contexts. In L. Goetz, D. Guess, & K. Stremel-Campbell(Eds.), Innovative program design for individuals with dual sensory impairments. (pp. 77-97). Baltimore, MD: Paul H. Brookes.

Grenot-Scheyer, M., Coots, J., & Falvey, M.A. (1989). Developing and fostering friendships. In M.A. Falvey (Ed.), Community-based curriculum: Instructional strategies for students with severe handicaps. Baltimore, MD: Paul H. Brookes.

Hill, E. (1976). Orientation and mobility techniques: A guide for the practioner. New York: American Foundation for the Blind. (Available from AFB, 15 West 16th Street, New York, NY 10011 cat no. PMP001).

Horner, R.H., McDonnell, J.J., & Bellamy, G.T. (1986). Teaching generalized skills: General case instruction in simulation and community settings. In R.H. Horner, L.

Meyer, & H.D. Fredericks (Eds.), Education of learners with severe handicaps: Exemplary service strategies. Baltimore, MD: Paul H. Brookes.

International Directory of Recreational Oriented Assistive Device Sources. Lifeboat Press: Ed J.A. Nesbitt.

Johnson, J.L., Flanagan, K., Burge, M.E., Kaufman-Debriere, S., & Spellman, C.R. (1980). Interactive individualized instruction with small groups of severely handicapped students. Education and Training of the Mentally Retarded, 15, 230-237.

Lapp, J., Passenger, B., & Wilcox, B. (1982). Community-based training: Adaptations for students with multiple handicaps. Unpublished manuscript, Eugene, OR: University of Oregon, Specialized Training Program.

LaVigna, G.W., & Donnellan, A.N. (1986). Alternatives to punishment: Solving behavior problems with non-aversive strategies. New York: Irvington Publishers.

Ludlow, B.L., Turnbull, A.P., & Luckasson, R. (1988). Transitions to adult life for people with mental retardation - Principles and practices. Baltimore, MD: Paul H. Brookes.

McGee, J.J., Menolascino, F.J., Hobbs, D.J., & Menousek, P.E. (1987). Gentle Teaching: A non-aversive approach to helping persons with mental retardation. New York: Human Services Press.

McLoughlin, C.S., Garner, J.B., & Callahan, M. (1987). Getting employed, staying employed: Job Development and training for persons with severe handicaps. Baltimore, MD: Paul H. Brookes.

Mencher, G.T., & Gerber, S.E. (1983). The multiply handicapped hearing impaired child. New York: Grune and Stratton.

Perske, R. & Perske, M. (1988). Circle of friends. Nashville, TN: Abingdon Press.

Niswander, P.S. (1987). Audiometric assessment and management. In L. Goetz, D. Guess, & K. Stremel-Campbell. Innovative program design for individuals with dual sensory impairments (pp. 99-126). Baltimore, MD: Paul H. Brookes.

Rainforth, B., & York, J. (1987). Integrating related service in community instruction. Journal of the Association for Persons with Severe Handicaps. 12(3), 190-198.

Roland, C., & Stremel-Campbell, K. (1987). Share and share alike: Conventional gestures to emergent language for learners with sensory impairments. In L. Goetz, D. Guess, & K. Stremel-Campbell (Eds.), Innovative program design for individuals with dual sensory impairments (pp. 49-75). Baltimore, MD: Paul H. Brookes.

Shroyer, E.H. (1988). Signing english for parents, teachers, and clinicians. Greensboro, NC: Sugar Sign Press.

Siegel-Causey, E., & Guess, D. (1989). Enhancing nonsymbolic communication interactions among learners with severe disabilities. Baltimore, MD: Paul H. Brookes.

Snell, M.E., & Browder, D.M. (1986). Community-referenced instruction: Research and issues. The Journal of the Association for Persons with Severe Handicaps, 11(1), 1-11.

Stremel-Campbell, K., & Matthews, J. (1987). Development of emergent language. In M. Bullis (Ed.), Communication development in young children with deaf-blindness: Literature review III (pp. 141-184). Monmouth, OR: Teaching Research Division, Oregon State System of Higher Education.

Taylor, S.J., & Bogden, R. (1987). On accepting relationships between people with mental retardation and non-disabled people: Towards an understanding of acceptance. Syracuse, NY: Center on Human Policy, Division of Special Education and Rehabilitation.

Todd, A.W., Benz, M.R., & Ferguson, D.L. (1987). Integrated programming and instruction for students with severe disabilities: Module 2-integrated group instruction. Eugene, Oregon: University of Oregon, Specialized Training Program and local education agencies.

Turnbull, H.R., Turnbull, A.P., Bronicki, G.J., Summers, J.A., & Roeder-Gordon, C. (1989). Disability and the family: A guide to decisions for adulthood. Baltimore, MD: Paul H. Brookes.

Wilcox, B., & Bellamy, G.T. (1987). The activities catalog: An alternative curriculum for youth and adults with severe disabilities. Baltimore, MD: Paul H. Brookes.

Wilcox, B. & Bellamy, G.T. (1987). A comprehensive guide to the activities catalog: An alternative curriculum for youth and adults with severe disabilities. Baltimore, MD: Paul H. Brookes.

Wilcox, B., & Bellamy, G.T. (1982). *Design of high school programs for severely handicapped students.* Baltimore, MD: Paul H. Brookes.

Writer, J. (1987). A movement-based approach to the education of students who are sensory impaired/multihandicapped. In L. Goetz, D. Guess, & K. Stremel-Campbell (Eds.), *Innovative program design for individuals with dual sensory impairments* (pp. 191-224). Baltimore, MD: Paul H. Brookes.

Zola, I.K., (1988). Letting go: Consent and the "yes, but..." problem in transition. In B.L. Ludlow, A.P. Turnbull, & R. Luckasson (Eds.), *Transitions to adult life for people with mental retardation* (pp. 45-66). Baltimore, MD: Paul H. Brookes.

APPENDIX B

PUBLISHERS' ADDRESSES

PUBLISHERS' ADDRESSES

Abingdon Press
201 8th Avenue South
P.O. Box 801
Nashville, Tennessee 37202
1-800-251-3320

The Alexander Graham Bell Association for the Deaf
3417 Volta Place, N.W.
Washington, D.C. 20007
(202) 377-5220

American Foundation for the Blind
15 West 16th Street
New York, N.Y. 10011
(212) 620-2000

C.E.C. Information Center
1920 Association Drive
Reston, VA 22091
(703) 620-3660

Center on Human Policy
Division of Special Education and Rehabilitation
200 Huntington Hall
Syracuse, N.Y. 13244-2340
(315) 443-3851

Grune and Stratton
6277 Sea Harbor Drive
Orlando, FL 32821
1-800-545-2522
(within Florida) (407)345-251

Human Service Press, Inc.
72 Fifth Avenue
New York, N.Y. 10011
(212)243-6000

Irvington Publishers
740 Barnum Avenue
Bridgeport, CT 06608
(203)366-1900

Kansas University Affiliated Facility
Bureau of Child Research and Department of Special Education
University of Kansas
3111 Haworth
Lawrence, Kansas 66045
(913)864-4950

Lifeboat Press
P.O. Box 11782
Marina Del Rey, CA 90295
(213)305-1600

Paul H. Brookes Publishing Co.
P.O. Box 10624
Baltimore, MD 21285-0624
1-800-638-3775

Social Security Administration
Office of Disability
Altmeyer Building
6401 Security Boulevard
Baltimore, MD 21235
1-800-234-5SSA

State University of New York-Albany
1400 Washington Avenue
Albany, N.Y. 12222
(518)442-4845

Sugar Sign Press
1407 Fairmont Street
Greensboro, N.C. 27403

Syracuse University
Division of Special Education
805 S. Crouse Avenue
Syracuse, N.Y. 13244-2280
(315)423-4126

Teacher's College Press
Teacher's College, Columbia University
1234 Amsterdam Avenue
New York, N.Y. 10027
1-800-638-3030

Teaching Research
345 Monmouth Avenue
Monmouth, OR 97361
(503)838-1220

University of Oregon
Specialized Training Program
135 Education
Eugene, OR 97403
(503)686-5311

APPENDIX C

PRODUCTS LIST: CATALOGUES FOR ADAPTIVE AIDS & EQUIPMENT

PRODUCTS LIST: CATALOGUES FOR ADAPTIVE AIDS AND EQUIPMENT

ABLEDATA
Adaptive Equipment Center
Newington's Children's Hospital
181 East Cedar Street
Newington, CT 06111
800/344-5405 or
203/667-5405 in Connecticut

ABLENET-AccessAbility Incorporated
360 Hoover St, N.E.
Minneapolis, MN 55412
(612) 331-5958

Adaptive Environments
Massachusetts College of Art
621 Huntington Avenue
Boston, MA 02115
(617) 739-0088
(Publications on environmental design and adaptations)

A Manual for Augmented Sensory Feedback Devices for Training Severely Handicapped Students
Philippa H. Cambell, William McInerey & Mark Middleton
Children's Hospital Medical Center of Akron
Akron, Ohio 44308

American Foundation for the Blind
15 West 16th Street
New York, NY 10010
(212) 620-2000

American Printing House for the Blind
P.O. Box 6085
Louisville, KY 40206
(502) 895-2405

Linda J. Burkhart
8503 Rhode Island Avenue
College Park, MD 20740
(Designs for teacher made adaptive equipment and switches)

Communication Aids for Children and Adults
Crestwood Company
P.O. Box 04606
Milwaukee, WI 53204-0606
(414) 461-9876

Communication Skill Builders
3830 E. Bellevue
P.O. Box 42050
Tucson, AZ 85733
(602) 323-7500

Guinta Associates
67 Leuning Street
South Hackensack, NJ 07606
(212) 594-4974
(201) 488-4425
(Environmental modification and equipment for individuals with hearing impairments)

Independent Living Aids
27 East Mall
Plainview, NY 11803
(800) 537-2118

Quest Electronics
Labelle Industries
501 South Worthington
Oconomowoc, WI   53066
(414) 567-9157

Telephone Pioneers of America
Manhattan Empire Chapter
195 Broadway
New York, NY 10007
Showroom:
1095 Avenue of the Americas
New York, NY 10036
(212) 395-8408
(Adaptive equipment for people with sensory and physical disabilities. Will custom make equipment to meet individual needs.)